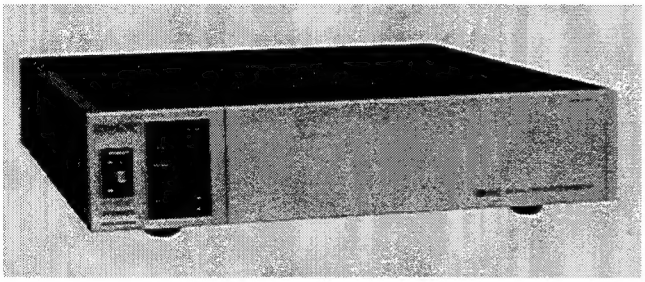
SONY

DIGITAL TIME BASE CORRECTOR

BVT-800PS



OPERATION AND MAINTENANCE MANUAL

1st Edition (Revised 12)

Serial No. 10001 and Higher

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SECTION 1
OPERATION

The BVT-800PS is a digital time base corrector for use with a color-under system VTR equipped with a capstan servo system which can upgrade the playback signal to satisfy broadcasting standards.

1-1. FEATURES

A wide correction range of 29 H
A window of 29 H (p-p) permits a wide range of time base error to be corrected. Even if the error exceeds the correctable range, no horizontal movement nor sync fluctuation occurs.

Interchangeability between PAL and SECAM systems
The BVT-800PS can be used for both PAL and SECAM systems only by exchanging the built-in circuit board. PAL and SECAM indicator will show you which board is installed into the BVT-800PS.

Dynamic tracking* of wide range of playback speed
When a BVU-820 series U-matic videocassette recorder is connected by the multi-core cable, the playback of −1 to +3 times normal playback speed is possible without any guard band noise.

Small and lightweight
Thanks to the new ICs for the A/D and D/A conversion and the newly designed signal processor, the BVT-800PS can reduce the size and weight for handy use.

Digital dropout compensator
An advanced digital dropout compensator replaces each luminance dropout with the signal of the previous line and each chrominance dropout with the signal of two lines before. This signal replacement is performed digitally so that no signal degradation occurs.

Video processor
The video level, chroma level, black level, burst/chroma phase (PAL model only), subcarrier phase (PAL model only) and sync phase can be adjusted. The burst/chroma phase, system subcarrier phase and system sync phase can be adjusted without interfering each other.

* Dynamic tracking is a trademark of Sony Corporation.

Built-in sync generator
The BVT-800PS can operate with an external sync signal or with a sync signal from the built-in sync generator. The subcarrier stability is ±1 Hz at 20°C ±5°C for the PAL model and ±100 Hz at 0°C to 40°C for the SECAM model.

Y/C delay control
The Y/C delay can be controlled up to ±150 nsec.

DG compensation
Differential gain (DG) up to 20% can be compensated to zero. (PAL model only)

8 bits, Y: 10.9 MHz/C: 5.4 MHz sampling
The playback signal is converted to a digital signal by sampling with 8 bits Y: 10.9 MHz/C: 5.4 MHz, so no degradation of the picture of a duplicating tape occurs.

High speed synchronized playback
With a BVU-800 series or a BVU-820 series VTR, a color picture up to 5 times normal playback speed in forward and reverse direction can be synchronized with the reference signal. With a monochrome picture, synchronized playback from −40 to +40 times normal playback speed is possible.

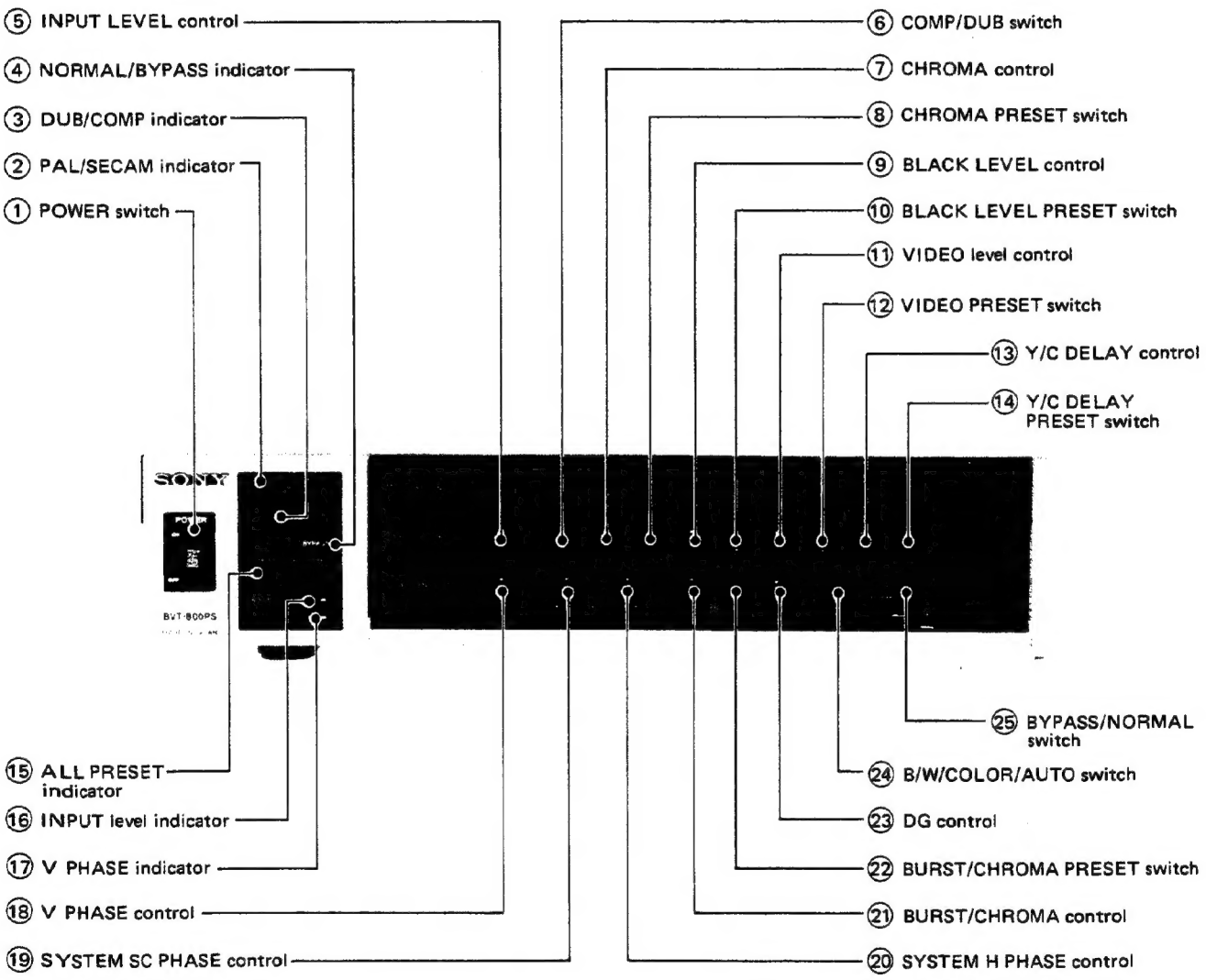
Selection of V-blanking
The H lines from the seventh to the twenty seconds can be set to on and off independently with the switches on the built-in circuit board. In this way the V-blanking width can be selected.

Remote control
With the BK-2007 remote control unit (optional), the following level and phase adjustments can be remotely controlled.
BVT-800PS(P) PAL model: Chroma level, video level, black level, system sc phase, system sync phase, burst/chroma phase.
BVT-800PS(S) SECAM model: Chroma level, video level, black level, system sync phase.

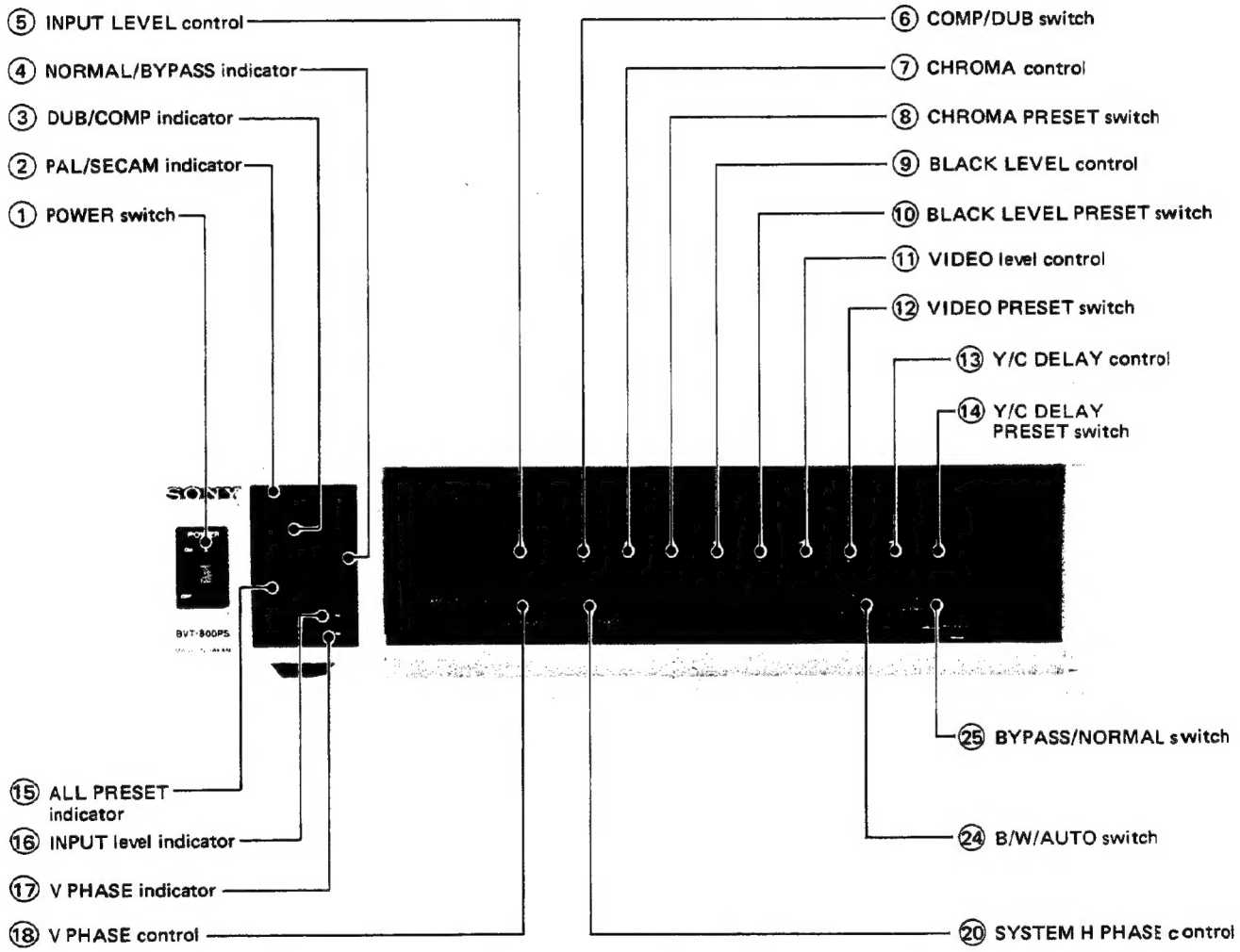
1-2. LOCATION AND FUNCTION OF PARTS AND CONTROLS

1-2-1. Control Panel

BVT-800PS(P) PAL model



BVT-800PS(S) SECAM model



① POWER switch
Press the ON side to turn the power on.

② PAL/SECAM indicator
When the PAL sync generator board is installed, the PAL indicator will light and when the SECAM sync generator board is installed, the SECAM indicator will light.

③ DUB/COMP indicator
When the COMP-DUB switch is set to DUB or the BVU-800 series or the BVU-820 series VTR is connected to the FROM VTR connector with a multi-cable, the DUB indicator will light. However when the BVU-820P is in the Dynamic tracking playback or the simultaneous playback mode, the COMP indicator will light. In other cases, the COMP indicator will light.

④ NORMAL/BYPASS indicator
NORMAL or BYPASS will light depending on the setting of the BYPASS/NORMAL switch.

⑤ INPUT LEVEL control
The video input level can be adjusted within a range of ±3 dB. The correct level is indicated in green on the INPUT level indicator.

⑥ COMP/DUB switch
When a BVU-200P or a BVU-200S is connected to the DUB IN (U-matic H) connector with a dubbing cable, set this switch to DUB and the DUB indicator will light. When the other VTR is connected to the OFF TAPE VIDEO connector, set this switch to COMP and the COMP indicator will light.

- When a BVU-800 series or a BVU-820 series VTR is connected to the FROM VTR connector with a multi-cable, the BVT-800PS is automatically set to the dub mode independent of the setting of this switch and the DUB indicator will light. However when the BVU-820P is in the Dynamic tracking playback or the simultaneous playback mode, the BVT-800PS is forcedly set to the COMP mode and the COMP indicator will light.
- In the dub mode, the signal skips the Y/C separation filter so that the bandwidth of the luminance signal will be wide.

⑦ CHROMA control
The chroma level of the output signal can be adjusted within a range of ±3 dB when the CHROMA PRESET switch is set to the upper (manual) position. The adjustable range of the 100% color bars is 120%.

- When the SECAM signal is processed, care should be taken to avoid the over frequency modulation.

⑧ CHROMA PRESET switch
Usually set to PRESET. In this position, the setting of the CHROMA control doesn't affect on the output signal. With this switch the upper position, the chroma level can be adjusted with the CHROMA control.

⑨ BLACK LEVEL control
The black level of the output signal can be adjusted from 0 to 0.11 V when the BLACK LEVEL PRESET switch is set to the upper (manual) position.

⑩ BLACK LEVEL PRESET switch
Usually set to PRESET. In this position, the setting of the BLACK LEVEL control doesn't affect on the output signal. With this switch the upper (manual) position, the black level can be adjusted with the BLACK LEVEL control.

⑪ VIDEO level control
When the VIDEO PRESET switch is set to the upper (manual) position, the video level is adjusted as follows:
BVT-800PS(P)
The video (luminance and chrominance) output level can be adjusted within the range of ±3 dB. This control does not adjust the sync signal level.
BVT-800PS(S)
Only the luminance level of the output signal can be adjusted within the range of ±3 dB, to avoid the over frequency modulation of the chrominance signal. This control does not adjust the sync and the chrominance signal.

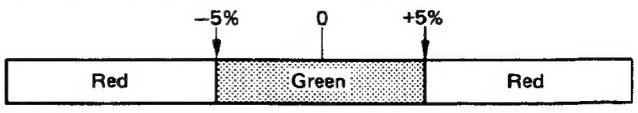
⑫ VIDEO PRESET switch
Usually set to PRESET. In this position, the setting of the VIDEO level control doesn't affect on the output signal. With this switch the upper (manual) position, the video level can be adjusted with the VIDEO level control.

⑬ Y/C DELAY control
When the Y/C DELAY PRESET switch is set to the upper (manual) position, the Y/C delay can be adjusted to 0 if the Y/C delay of the input signal is within the range of ±150 nsec.

⑭ Y/C DELAY PRESET switch
Usually set to PRESET. In this position, the adjusted value will be 0. With this switch the upper position, the Y/C delay can be adjusted with the Y/C DELAY control.

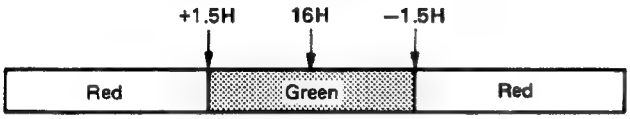
⑮ ALL PRESET indicator
When the CHROMA PRESET, BLACK LEVEL PRESET, Y/C DELAY PRESET, VIDEO PRESET and BURST/CHROMA PRESET (BVT-800PS(P) only) switches are set to PRESET, this indicator will light.

⑯ INPUT level indicator
The proper input level is indicated in green on this indicator by observing the level of the sync signal.



⑰ V PHASE indicator

The BVT-800PS delays the output signal by 16 H to the input signal so that the playback signal of the VTR is advanced by 16 H to the reference signal. If the delay of the playback signal is in the range of 16 H ± 1.5 H, the green part of this indicator will light. Adjust the V PHASE control so that the green part will light.



⑱ V PHASE control

The playback signal can be adjusted so that it advances by 16 H to the reference signal. The proper level is indicated in green on the V PHASE indicator.

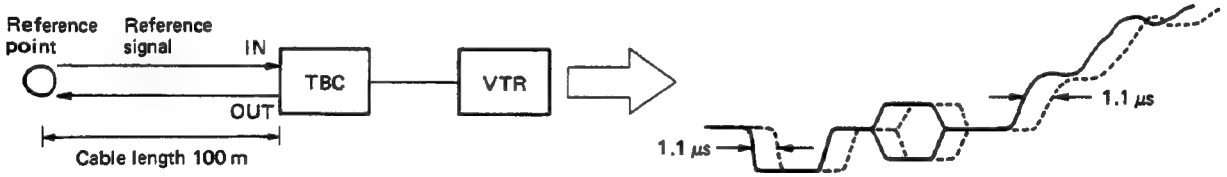
⑲ SYSTEM SC PHASE control (for the BVT-800PS(P) only)

The subcarrier phase of the output signal can be adjusted to that of the reference signal. The adjustable range is 360°. This control does not effect on the video and sync phase.

⑳ SYSTEM H PHASE control

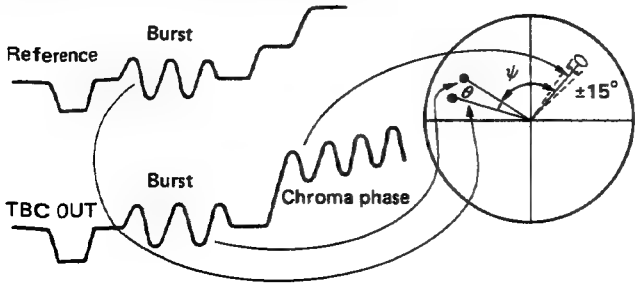
The delay between the playback signal and the reference signal caused by the cable length can be compensated for by adjusting the system H phase with this control. The adjustable range is from −1 μsec. to +3 μsec.

In the following illustration, the signal delay between the reference point and the input on the TBC is 550 nsec. The TBC OUT signal will be delayed an additional 550 nsec to return to the reference point so that the phase must be advanced by 1.1 μsec.



㉑ BURST/CHROMA control (for the BVT-800PS(P) only)

The burst/chroma phase (ψ) of the output signal can be adjusted within a range of ±15° when the BURST/CHROMA PRESET switch is set to the upper (manual) position. This control does not adjust the θ.



㉒ BURST/CHROMA PRESET switch (for the BVT-800PS(P) only)

Usually set to PRESET. In this position, the setting of the BURST/CHROMA control doesn't affect on the output signal. With this switch the upper (manual) position, the burst/chroma phase can be adjusted with the BURST/CHROMA control.

㉓ DG (differential gain) control (for the BVT-800PS(P) only)

The DG of the U-matic VTR can be adjusted within a range of ±20%.

㉔ B/W/COLOR/AUTO switch (PAL model)
B/W/AUTO switch (SECAM model)

Set this switch to the position which corresponds to the signal connected to the OFF TAPE VIDEO input connector.

B/W: The input signal is treated as a monochrome signal.

COLOR: The input signal is treated as a color signal.

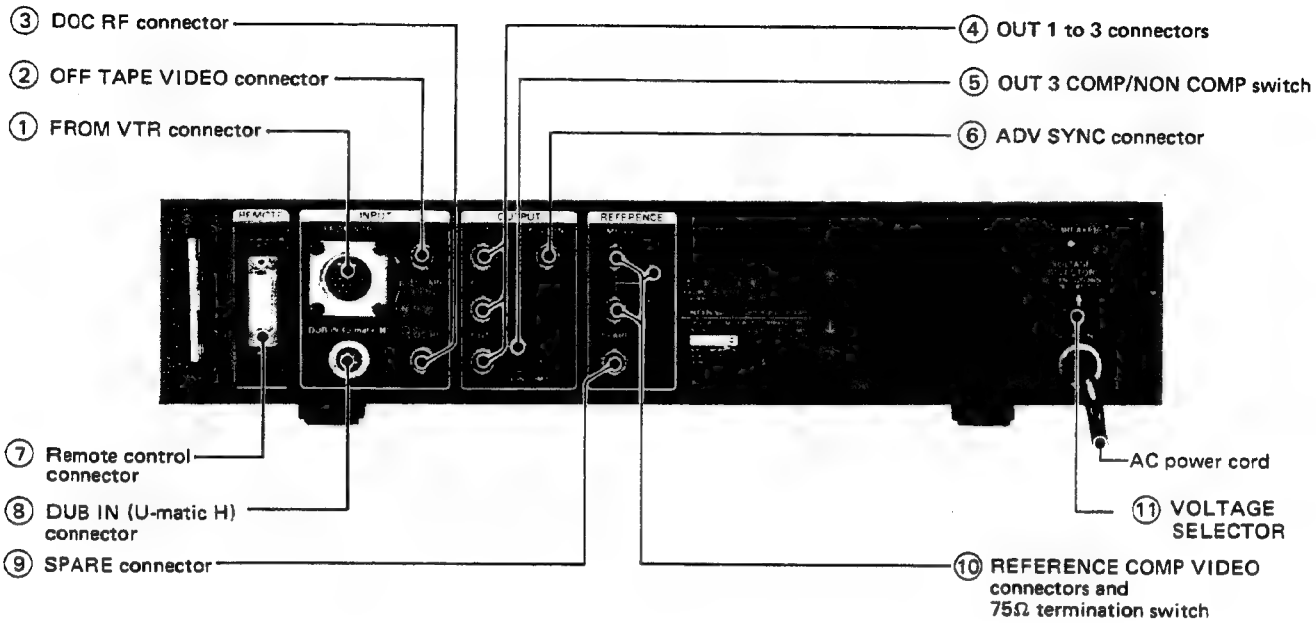
AUTO: The input signal is identified as a monochrome signal or a color signal by its burst signal level. When the burst signal level is below the reference level (300 mV) by 12 ± 3 dB, the signal is identified as a monochrome signal.

㉕ BYPASS/NORMAL switch

BYPASS: The input signal bypasses the circuit and will be fed out.

NORMAL: Normally set to this position. The time base error of the input signal is corrected before the signal is fed out.

1-2-2. Connector Panel



① FROM VTR connector (18 pin) (for the BVU-800 series and the BVU-820 series VTR)
Connect to the TBC connector on the BVU-800 series or the BVU-820 series VTR with the supplied multi-core cable. This connection cuts the input to the OFF TAPE VIDEO connector ②.

② OFF TAPE VIDEO connector (BNC type)
Connect to the video output connector on the VTR.

③ DOC RF connector (BNC type)
Connect to the RF (OFF TAPE) connector on the VTR.

④ OUT 1 to 3 connectors (BNC type)
These connectors output the video signals. Connect to the video input connector on the equipment to be used. The output of the OUT 3 connector can be set to composite video or non-composite video by the COMP/NON COMP switch ⑤.

⑤ OUT 3 COMP/NON COMP switch
The output signal of the OUT 3 connector can be changed with this switch.
COMP: A composite video signal (VBS, the same as the OUT 1 and 2) is output.
NON COMP: A non-composite video signal (VB) is output.

⑥ ADV SYNC (advanced sync) connector (BNC type)
The sync signal which has been advanced by 16 H against the reference signal is output here. Connect to the sync input on the VTR.

⑦ Remote control connector (15 pin)
Connect the BK-2007 remote control unit to control the BVT-800PS remotely.

⑧ DUB IN (U-matic H) connector (7 pin)
Connect to the DUB OUT connector on the BVU-200P or the BVU-200S and the wide bandwidth can be obtained. When this connector is used, set the COMP/DUB switch on the front panel to DUB.

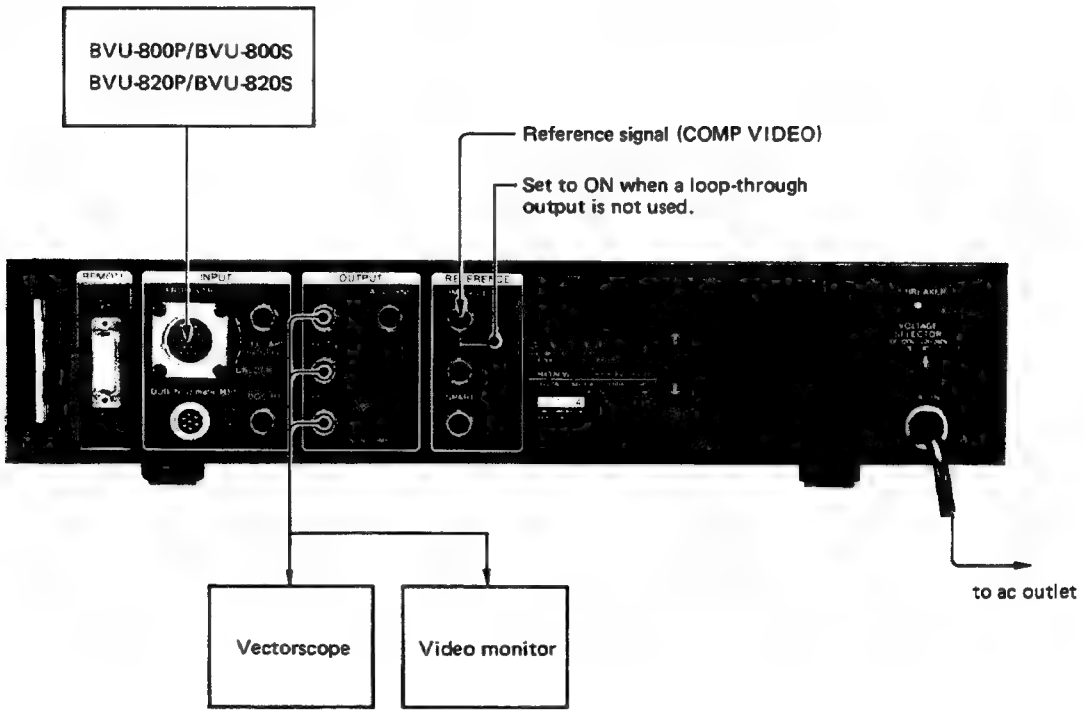
⑨ SPARE connector (BNC type)
No connections here.

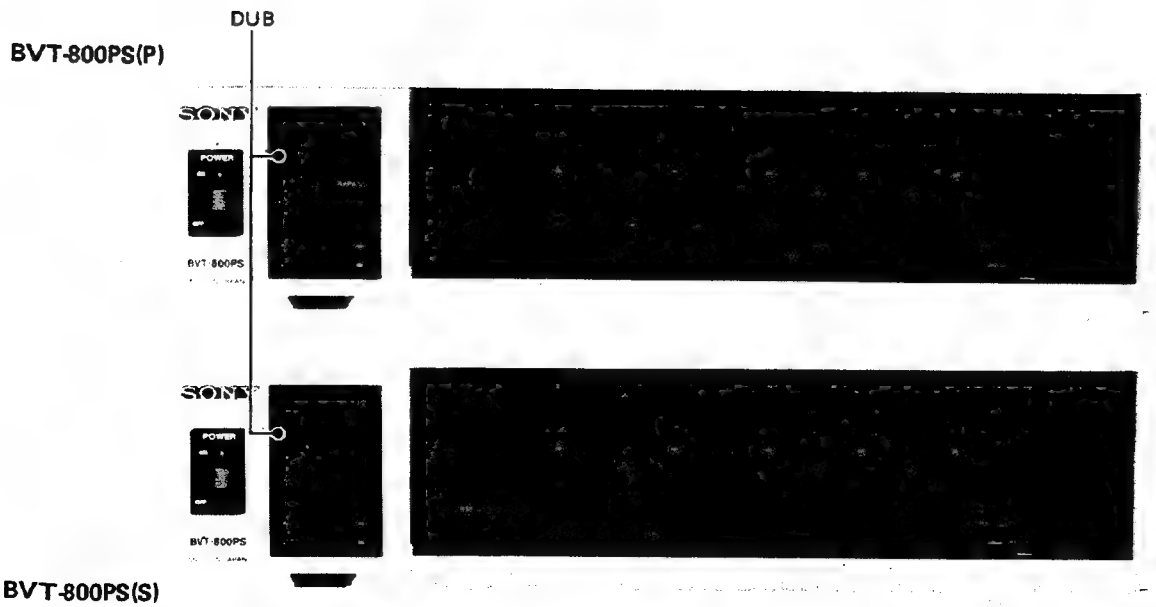
⑩ REFERENCE COMP VIDEO input connectors (BNC type) **and 75-ohm termination switch**
Connect a reference signal (BS or VBS) here. These two connectors are in "loop-through" configuration so that the input signal to one connector is fed directly to the other. When a loop-through output is used, be sure to set the 75-ohm termination switch to OFF. If such an output is not used, set the switch to ON.

⑪ VOLTAGE SELECTOR
Set to your local power voltage. If the selector must be reset, remove the cover, press the voltage selector switch, and replace the cover.

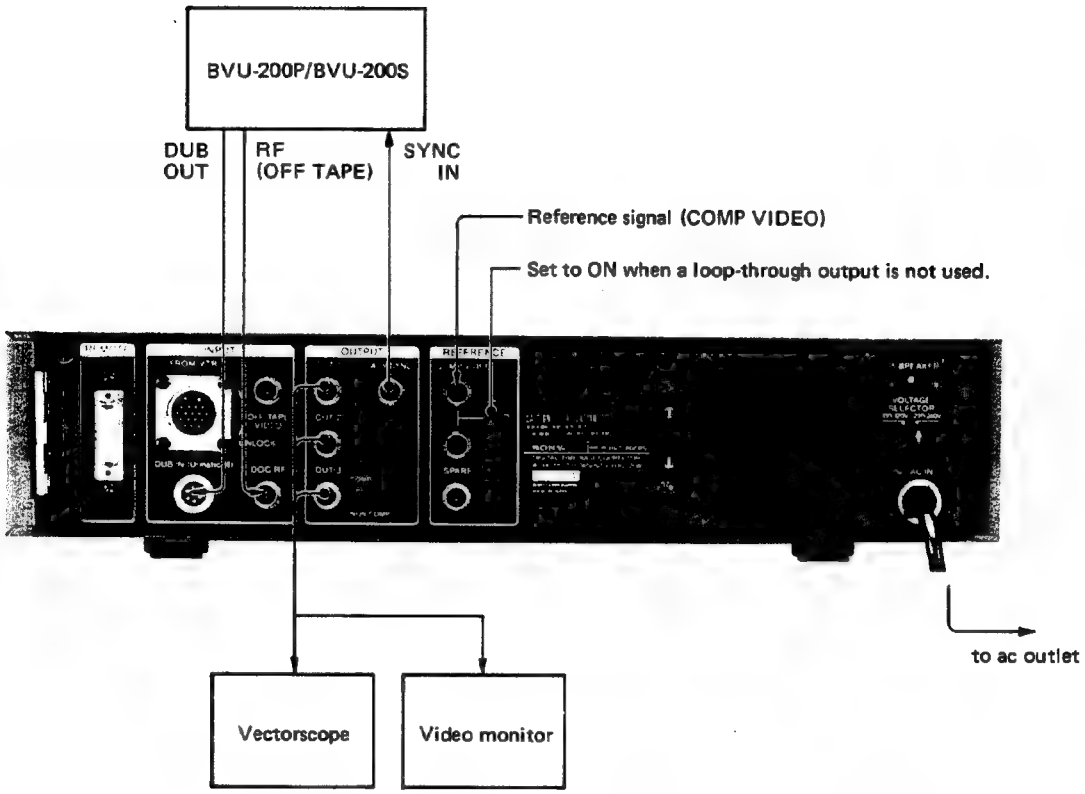
1-3. CONNECTIONS AND OPERATION

1-3-1. Connection with the BVU-800P/BVU-800S and BVU-820P/BVU-820S

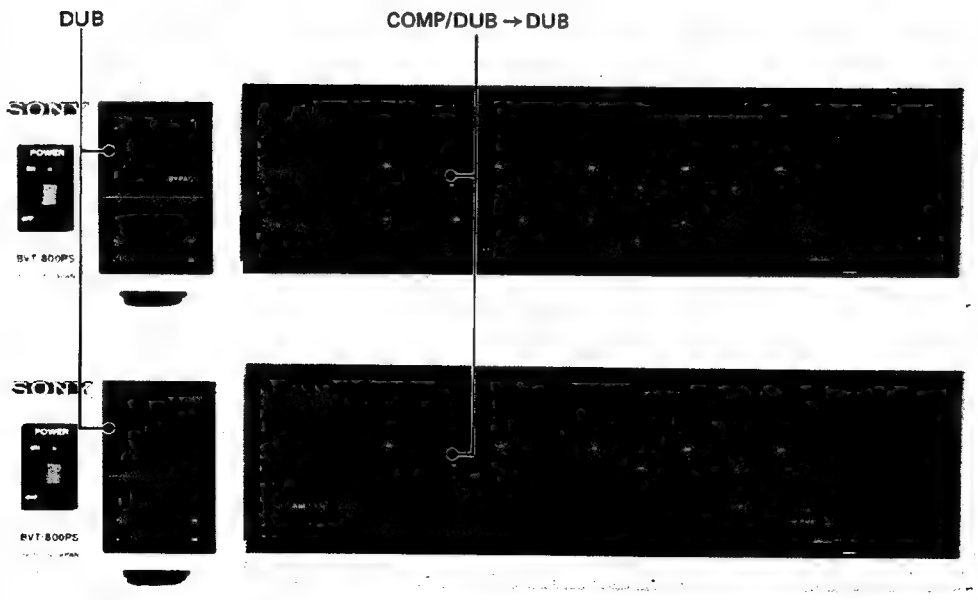




1-3-2. Connection with the BVU-200P/BVU-200S

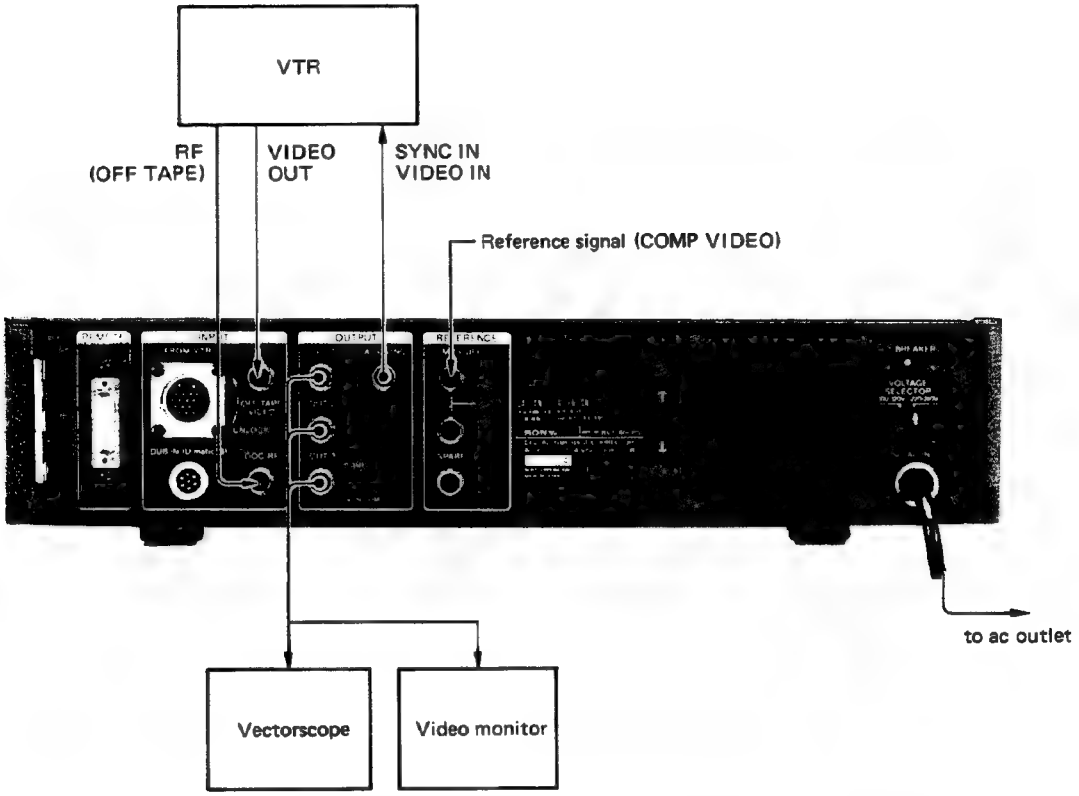


BVT-800PS(P)

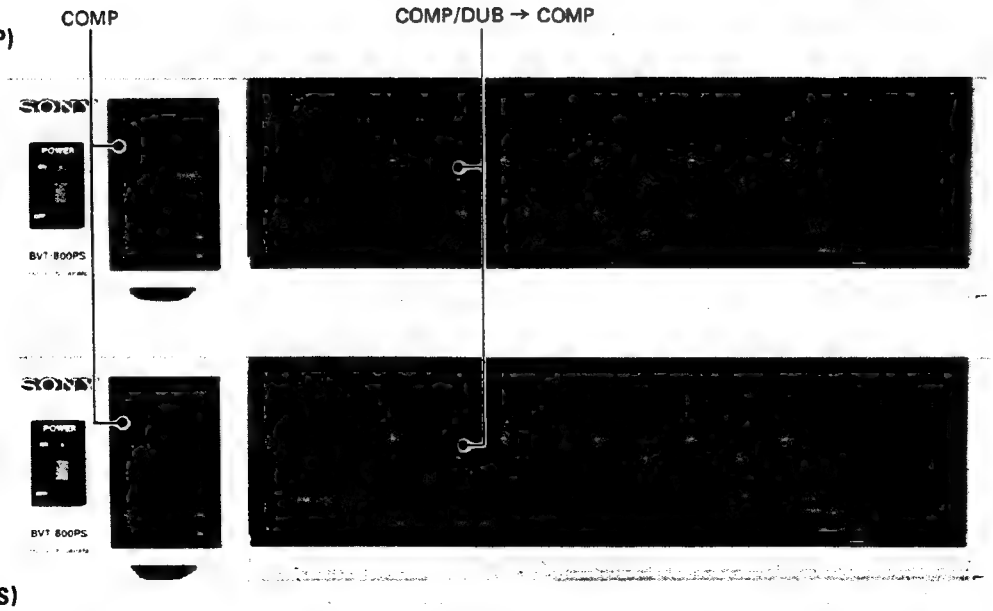


BVT-800PS(S)

1-3-3. Connection with a VTR other than BVU-series VTR which is equipped with a capstan servo system



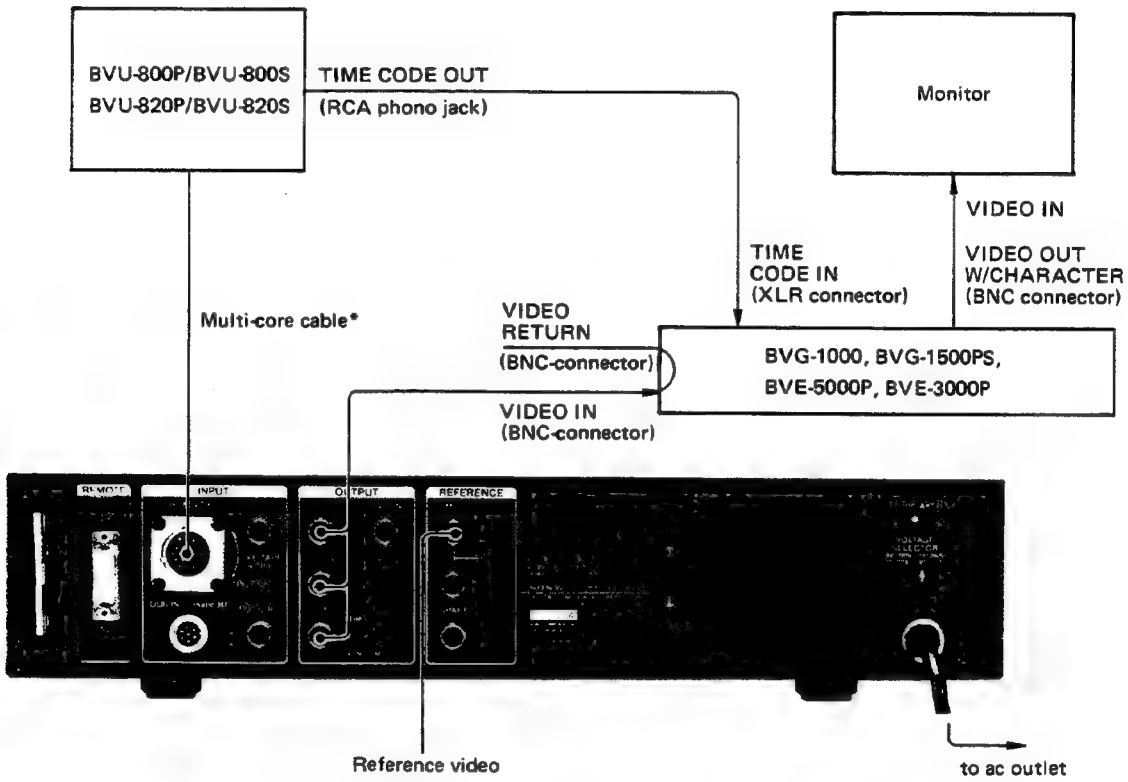
BVT-800PS(P)



BVT-800PS(S)

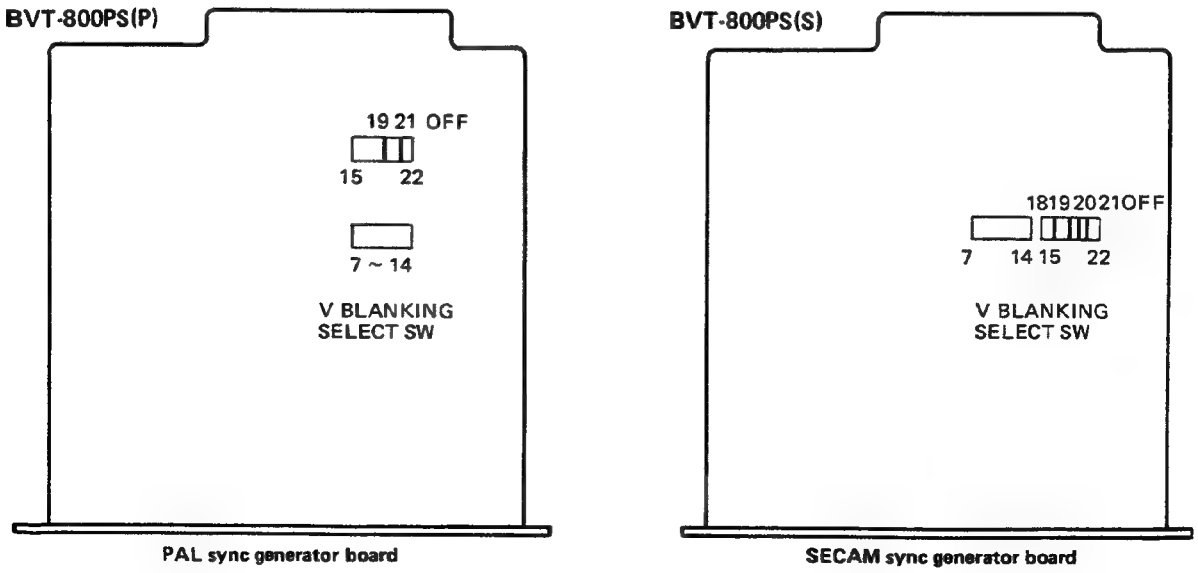
1-3-4. Connection to use the VITC (Vertical Interval Time Code)

Connect one of the BVU-800P, BVU-800S, BVU-820P or BVU-820S and one of the BVG-1500PS, BVG-1000, BVE-5000P or BVE-3000P.



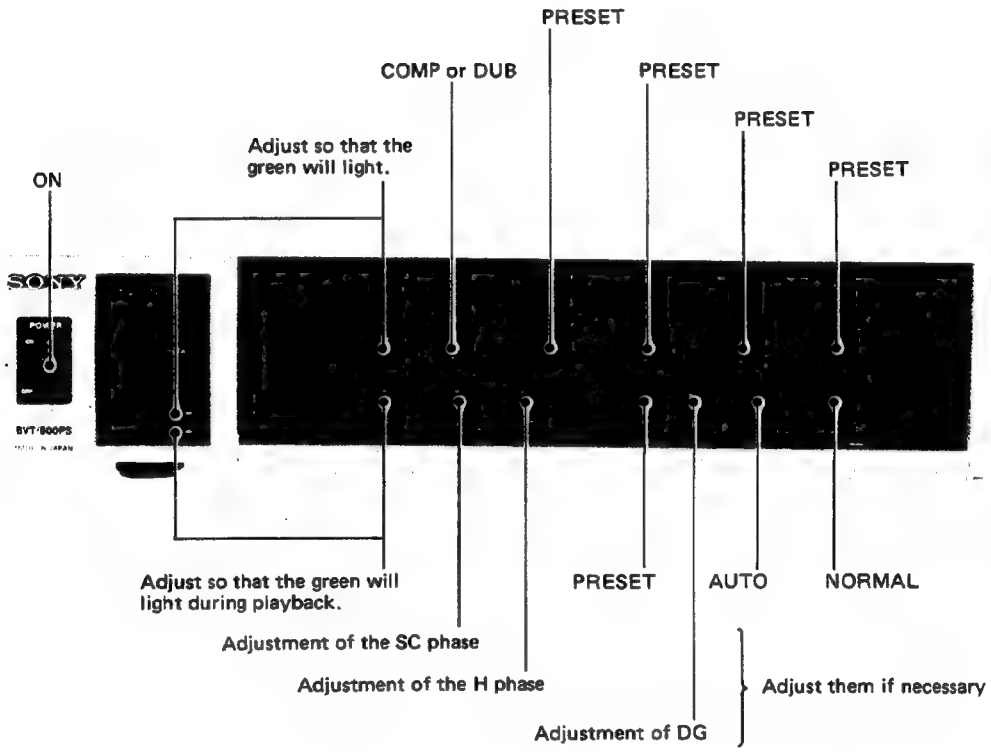
* When the BVU-200 series VTR is used, refer to 1-3-2.

When the VITC is used, be sure to set the V blanking select switches for 19 and 21 lines to OFF on the PAL model, or for 18, 19, 20 and 21 lines to OFF on the SECAM model.

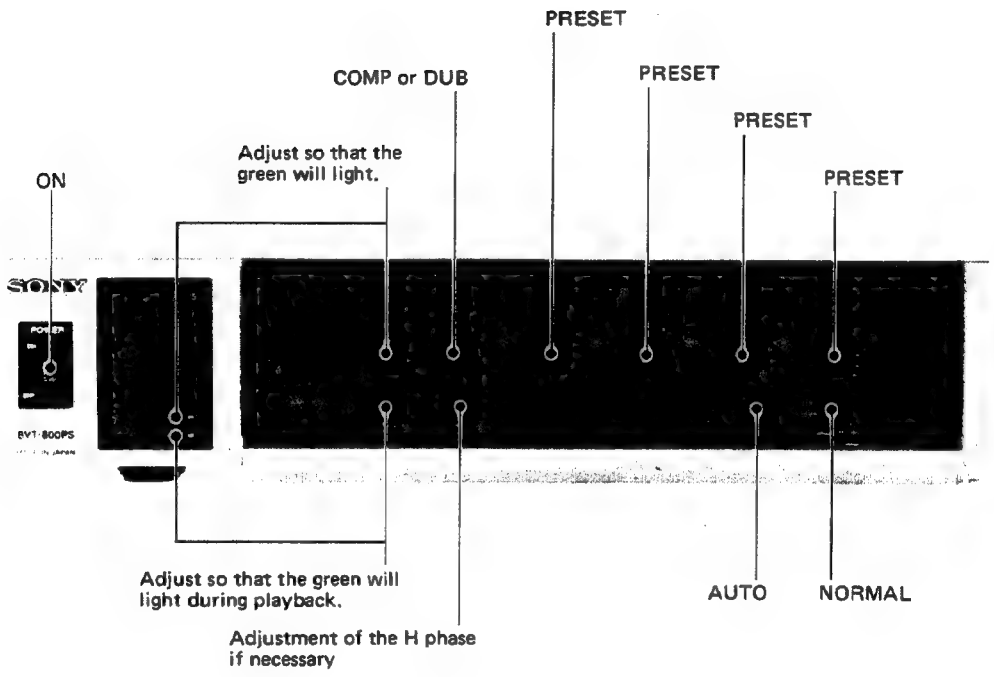


1-3-5. Standard Setting

BVT-800PS(P) PAL model



BVT-800PS(S) SECAM model



1-4. SPECIFICATIONS

General

Power requirement	100 - 120 V (90 - 132 V)/220 - 240 V (198 - 264 V) ac selectable 50/60 Hz (48 - 62 Hz)
Power consumption	100 W
Operating temperature	0°C to 40°C (32°F to 104°F)
Storage temperature	−10°C to +60°C (14°F to 140°F)
Humidity	10 - 90% (non condensing)
Dimensions	424 x 88 x 515 mm (w/h/d) (16 3/4 x 3 1/2 x 20 3/8 inches)
Weight	13 kg (28 lb 10 oz)

Supplied accessories

Extension board EB-9A x1
Rack mount kit x1
(Handle x2, Screw B4x12 x4, Screw K4x10 x4)
Multi-core cable x1
Operation and maintenance manual x1

Design and specifications subject to change without notice.

		BVT-800PS (P) PAL	BVT-800PS(S) SECAM
Video	Bandwidth COMP IN	Y: 2.5 MHz ±0.4 dB, 3.25 MHz −3 dB C: ±0.7 MHz −3 dB	Y: 2.5 MHz ±0.4 dB, 3.25 MHz −3 dB C: ±0.5 MHz −3 dB
	DUB IN	Y: 3.5 MHz ±0.4 dB 4.3 MHz −3 dB C: ±0.75 MHz −3 dB	Y: 3.5 MHz ±0.4 dB 4.3 MHz −3 dB C: ±0.5 MHz −3 dB
	Signal-to-noise ratio	55 dB	55 dB
	DG	2%	—
	DP	2°	—
	K factor (2T pulse) COMP IN	4%	4%
	DUB IN	2%	2%
	Chrominance/luminance delay	10 nsec	10 nsec
	Correction range	29 H(p-p)	29 H(p-p)
	Residual error	Color: ±2.5 nsec Monochrome: ±15 nsec	±15 nsec
Input signal	Off tape video	Composite 1.0 V(p-p) ±3 dB (adjustable), 75 ohms	
	DUB IN	Luminance: 0.5 V(p-p) ±3 dB (adjustable), 75 ohms Chrominance: 0.5 V(p-p), 75 ohms	
	DOC RF signal	0.5 V ±6 dB, 75 ohms	
	Reference comp video	1.0 V(p-p) ±3 dB, 75 ohms ON/OFF	
Output signal	Advance sync	2.2 V ±0.3 V, 75 ohms	
	Video output	1: 1.0 V(p-p) 2: 1.0 V(p-p) 3: 1.0 V(p-p) /0.7 V(p-p) (non-composite video)	
Output controls	Video level	±3 dB	±3 dB (luminance only)
	Chroma level	±3 dB	±3 dB
	Black level	0 − 0.11 V	0 − 0.11 V
	Burst/chroma phase	±15°	—
	DG compensator	±20%	—
	System sync phase	−1 to +3 μsec	−1 to +3 μsec
	System sc phase	more than ±180°	—
	Y/C delay	±150 nsec	±150 nsec

CHAPITRE 1
FONCTIONNEMENT

Le BVT-800PS est un correcteur de base de temps numérique destiné à travailler avec un magnétoscope à système sous-couleur (magnétoscope à sous-porteuses couleurs transposées vers les fréquences basses) équipé d'un servosystème de cabestan qui peut fournir un signal de lecture conforme aux normes de radio-diffusion.

1-1. CARACTERISTIQUES

Large plage de correction de 29 H
Une correction d'erreur de base de temps sur une plage de 29 H est possible, et si les erreurs devaient dépasser la plage de correction, aucun mouvement horizontal et aucune fluctuation de synchronisation ne se produirait.

Systèmes PAL et SECAM interchangeables
Par simple changement d'une plaquette de circuit enfichable, il est possible d'utiliser aussi bien le système PAL que le système SECAM, tandis qu'un témoin PAL ou SECAM signale celle qui est installée dans le BVT-800PS.

Alignement dynamique* sur une large plage de vitesse de lecture
Lorsqu'un magnétoscope U-matic de série BVU-820 est raccordé à l'aide du câble à âmes multiples, la lecture est possible de −1 à +3 fois la vitesse normale sans aucun bruit de la bande de sécurité.

Compacité et légèreté
Grâce à l'utilisation de nouveaux circuits intégrés pour la conversion analogique/numérique et numérique/analogique ainsi que d'un processeur de signal de conception nouvelle, les dimensions et le poids du BVT-800PS ont été réduits d'une manière considérable.

Compensateur numérique de manque de signal
Un compensateur numérique moderne remplace tout manque de luminance par le signal de la ligne précédente et tout manque de chrominance par le signal des deux lignes d'avant la perte. Comme ce remplacement du signal s'accomplit de façon numérique, il ne se produit aucune dégradation du signal.

Processeur vidéo
Il est possible d'ajuster le niveau vidéo, le niveau chroma, le niveau du noir, la phase de synchronisation couleur/chroma (modèle PAL uniquement), la phase de la sousporteuse (modèle PAL uniquement) et la phase de synchronisation. De plus, la phase de synchronisation couleur/chroma, la phase de sousporteuse du système et la phase de synchronisation du système peuvent se régler sans interférences mutuelles.

* Le terme "Alignement dynamique (Dynamic Tracking)" est une marque déposée de Sony Corporation.

Générateur de synchronisation incorporé
Le BVT-800PS peut fonctionner avec un signal de synchronisation externe ou avec un signal de synchronisation provenant du générateur de synchronisation incorporé. La stabilité de la sousporteuse est de ±1 Hz à 20°C ±5°C pour le modèle PAL et de ±100 Hz entre 0°C et 40°C pour le modèle SECAM.

Contrôle du retard Y/C
Le retard Y/C peut se contrôler jusqu'à ±150 nsec.

Compensation de gain différentiel
Le gain différentiel (DG) allant jusqu'à 20% peut être compensé à zéro. (Uniquement pour le modèle PAL)

Echantillonnage de 8 bits, Y:10,9 MHz/C:5,4 MHz
A la lecture, le signal est converti en un signal numérique par discrimination avec 8 bits Y:10,9 MHz/C:5,4 MHz, de sorte qu'aucune dégradation de l'image ne se produit lors de la copie d'une bande.

Image synchronisée à haute vitesse
Avec un magnétoscope de série BVU-800 ou de série BVU-820, il est possible de synchroniser avec le signal de référence une image couleur dont la vitesse de lecture va jusqu'à 5 fois la normale, en marche avant ou en marche arrière. Avec une image monochrome, une image synchronisée est possible de −40 à +40 fois la vitesse de lecture normale.

Sélection de la suppression de trame (V)
Les lignes H de la septième à la vingt-deuxième peuvent être mises en/hors service indépendamment à l'aide des sélecteurs de la plaquette de circuit incorporée; de cette façon, il est possible de choisir la largeur de suppression de trame (V).

Télécommande
Moyennant l'emploi de la télécommande BK-2007 (en option), les réglages de niveau et de phase ci-après peuvent se contrôler à distance.

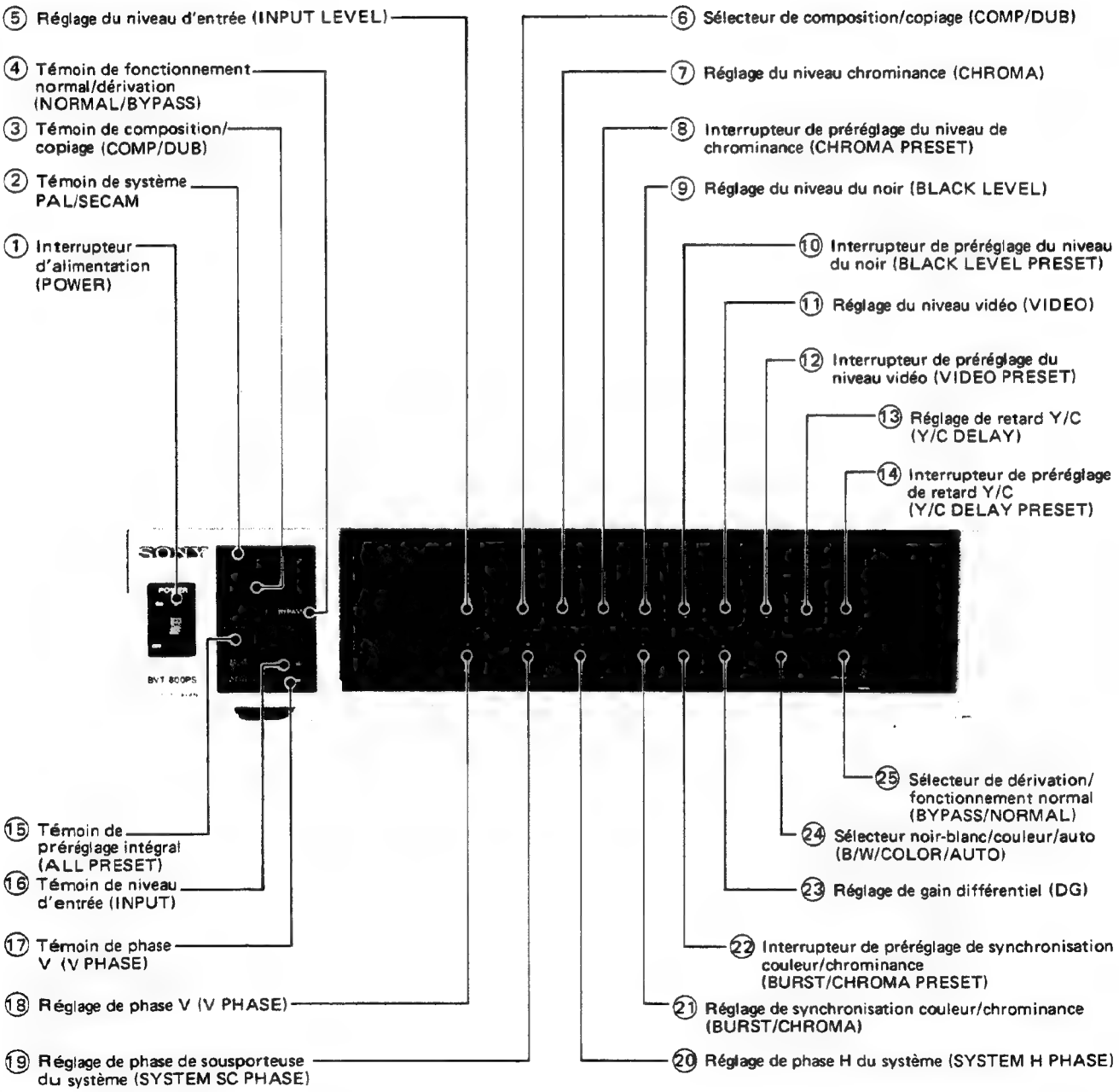
Modèle PAL BVT-800PS(P): Niveau chroma, niveau vidéo, niveau du noir, phase de sousporteuse du système, phase de synchronisation du système, phase de synchronisation couleur/chroma.

Modèle SECAM BVT-800PS(S): Niveau chroma, niveau vidéo, niveau du noir, phase de synchronisation du système.

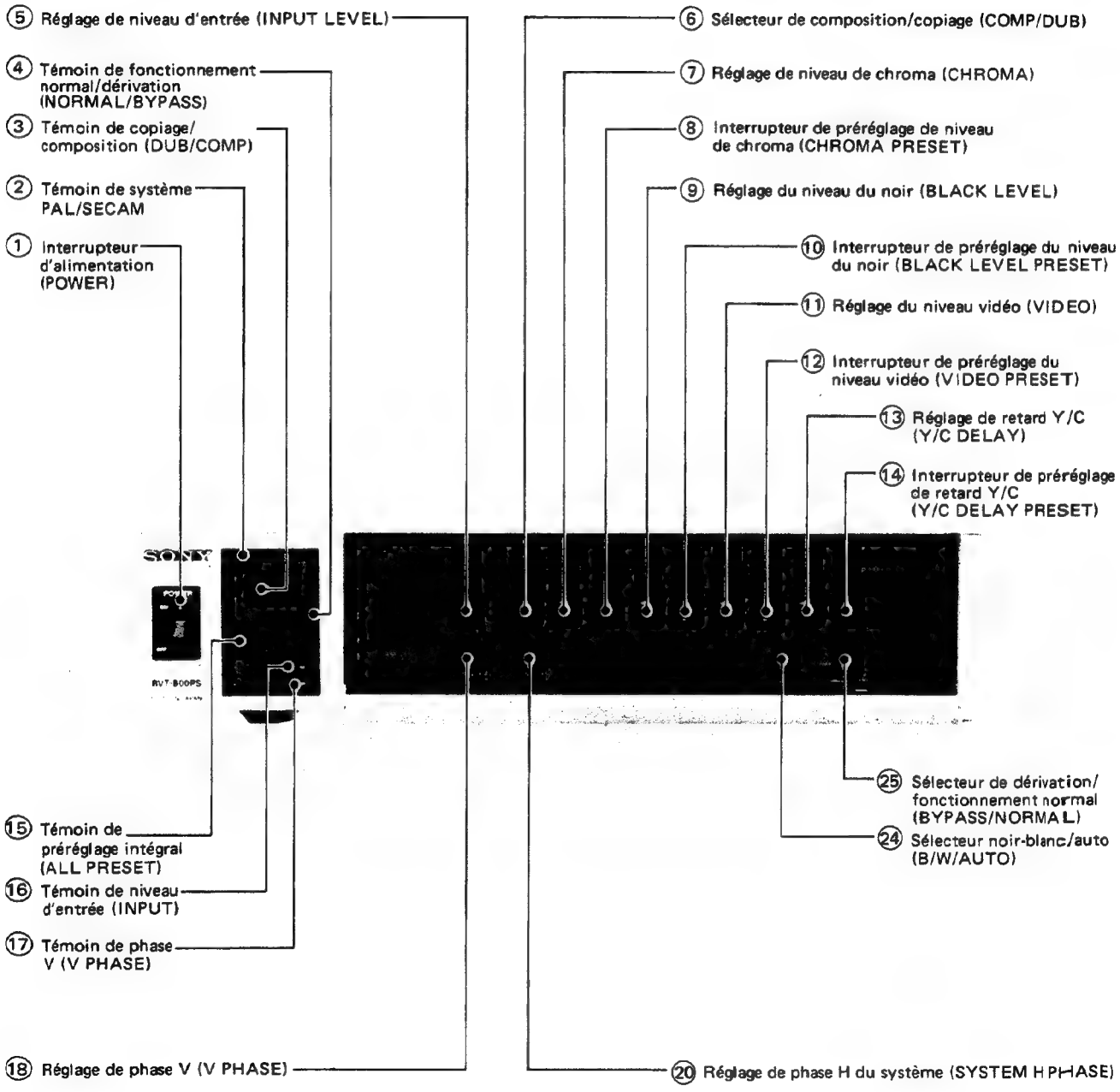
1-2. EMPLACEMENT ET FONCTION DES ORGANES ET DES COMMANDES

1-2-1. Panneau de Contrôle

Modèle BVT-800PS(P) pour système PAL



Modèle BVT-800PS(S) pour système SECAM



① Interrupteur d'alimentation (POWER)
Appuyer sur le côté marqué "ON" pour mettre l'appareil sous tension.

② Témoin de système PAL/SECAM (PAL/SECAM)
Le témoin PAL s'allume lorsque la plaquette de générateur de synchronisation PAL est installée; par contre, si la plaquette SECAM est utilisée, c'est le témoin SECAM qui s'allume.

③ Témoin de copiage/composition (DUB/COMP)
Lorsque le sélecteur COMP-DUB est réglé sur DUB, ou que le magnétoscope de série BVU-800 ou de série BVU-820 est raccordé au connecteur FROM VTR à l'aide d'un câble multiple, le témoin DUB s'allume. Cependant, lorsque le BVU-820P est en mode de lecture à alignement dynamique ou en mode de lecture simultanée, le témoin COMP s'allume. Dans les autres cas, c'est le témoin COMP qui s'allume.

④ Témoin de fonctionnement normal/dérivation (NORMAL/BYPASS)
Le témoin NORMAL ou BYPASS s'allume d'après le réglage du sélecteur BYPASS/NORMAL ㉕.

⑤ Réglage du niveau d'entrée (INPUT LEVEL)
Il permet d'ajuster le niveau d'entrée vidéo dans une plage de ±3 dB. Le niveau correct est signalé en vert sur l'indicateur de niveau d'entrée (INPUT).

⑥ Sélecteur de composition/copiage (COMP/DUB)
Lorsqu'un BVU-200P ou un BVU-200S est raccordé au connecteur DUB IN (U-matic H) à l'aide d'un câble de copiage, on règlera ce sélecteur sur DUB, ce qui fera s'allumer le témoin DUB. Lorsqu'un autre magnétoscope est raccordé au connecteur OFF TAPE VIDEO, régler ce même sélecteur sur COMP et le témoin COMP s'allumera.

- Lorsqu'un magnétoscope de série BVU-800 ou BVU-820 est raccordé au connecteur FROM VTR à l'aide d'un câble multiple, le correcteur BVT-800PS sera automatiquement réglé au mode de copiage, quel que soit le réglage de ce sélecteur et le témoin DUB s'allumera. Cependant, si le BVU-820P est en mode de lecture à alignement dynamique ou en mode de lecture simultanée, le BVT-800PS est mis de force en mode COMP est le témoin COMP s'allume.
- En mode de copiage, le signal ignore le filtre de séparation Y/C de sorte que la largeur de bande du signal de luminance est large.

⑦ Réglage du niveau de chroma (CHROMA)
Lorsque l'interrupteur CHROMA PRESET ⑧ est réglé à la position haute (manuel), le niveau chroma du signal de sortie peut se régler dans une plage de ±3 dB. La plage ajustable des bandes colorées 100% est de 120%.

- Lors du traitement d'un signal SECAM, il sera nécessaire d'éviter une surmodulation de fréquence.

⑧ Interrupteur de préréglage de niveau de chroma (CHROMA PRESET)
On le laissera normalement à la position PRESET où le réglage CHROMA n'exerce aucune influence sur le signal de sortie. Quand cet interrupteur est à la position haute, un ajustement du niveau de chroma est possible à l'aide du réglage CHROMA ⑦.

⑨ Réglage du niveau du noir (BLACK LEVEL)
Le niveau du noir du signal de sortie peut se régler entre 0 et 0,11 V quand l'interrupteur BLACK LEVEL PRESET ⑩ est placé à la position haute (manuel).

⑩ Interrupteur de préréglage du niveau du noir (BLACK LEVEL PRESET)
On le laissera normalement à la position PRESET où le réglage BLACK LEVEL ⑨ n'exerce aucune influence sur le signal de sortie. Quand cet interrupteur est à la position haute (manuel), le niveau du noir peut être ajusté à l'aide du réglage BLACK LEVEL.

⑪ Réglage de niveau vidéo (VIDEO)
Lorsque l'interrupteur VIDEO PRESET ⑫ se trouve à la position haute (manuel), le niveau vidéo peut se régler comme suit:
BVT-800PS (P)
Le niveau de sortie vidéo (luminance et chrominance) peut se régler dans une plage de ±3 dB. Ce réglage est sans effet sur le niveau du signal de synchronisation.
BVT-800PS (S)
Seul le niveau de luminance du signal de sortie peut se régler dans une plage de ±3 dB pour éviter une surmodulation de fréquence du signal de chrominance. Ce réglage est sans effet sur le signal de synchronisation et de chrominance.

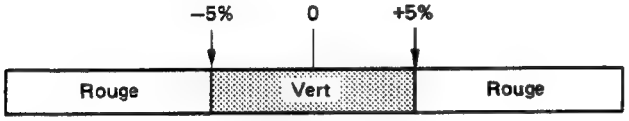
⑫ Interrupteur de préréglage de niveau vidéo (VIDEO PRESET)
On le laissera normalement à la position PRESET où le réglage VIDEO ⑪ n'exerce aucune influence sur le signal de sortie. Quand cet interrupteur est à la position haute (manuel), le réglage du niveau vidéo permet d'ajuster ce niveau.

⑬ Réglage de retard Y/C (Y/C DELAY)
Lorsque l'interrupteur Y/C DELAY PRESET est réglé à la position haute (manuel), le retard Y/C du signal d'entrée peut être ramené à "0" si le retard se situe dans la plage de ±150 nsec.

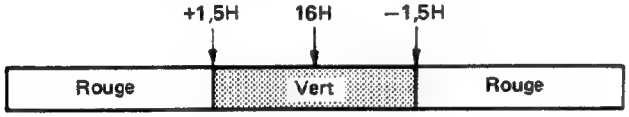
⑭ Interrupteur de préréglage de retard Y/C (Y/C DELAY PRESET)
On le placera normalement à la position PRESET où la valeur ajustée sera "0". Quand il est placé à la position haute, le retard Y/C peut être ajusté à l'aide du réglage Y/C DELAY.

⑮ Témoin de préréglage intégral (ALL PRESET)
Il s'allume quand les interrupteurs CHROMA PRESET, BLACK LEVEL PRESET, Y/C DELAY PRESET, VIDEO PRESET et BURST/CHROMA PRESET (uniquement pour le BVT-800PS(P)) sont tous réglés à la position PRESET.

⑯ Témoin de niveau d'entrée (INPUT)
Le niveau d'entrée approprié est affiché en vert sur cet indicateur par observation du niveau du signal de synchronisation.



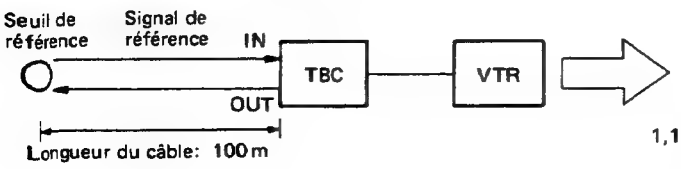
⑰ Témoin de phase V (V PHASE)
Le BVT-800PS retarde le signal de sortie de 16 H par rapport au signal d'entrée de telle sorte que le signal de lecture du magnétoscope soit avancé de 16 H par rapport au signal de référence. Si le retard du signal de lecture se situe dans la plage de 16 H ± 1,5 H, la section verte de cet indicateur s'allume. Agir sur le réglage V PHASE ⑱ de sorte que cette partie verte s'allume.

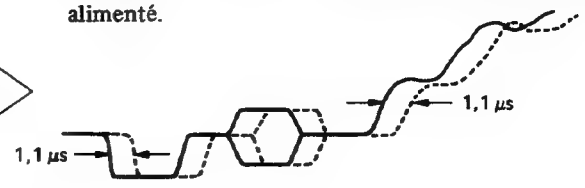


⑱ Réglage de phase V (V PHASE)
Le signal de lecture peut être réglé de sorte qu'il soit avancé de 16 H par rapport au signal de référence. Le niveau approprié est affiché en vert sur l'indicateur V PHASE.

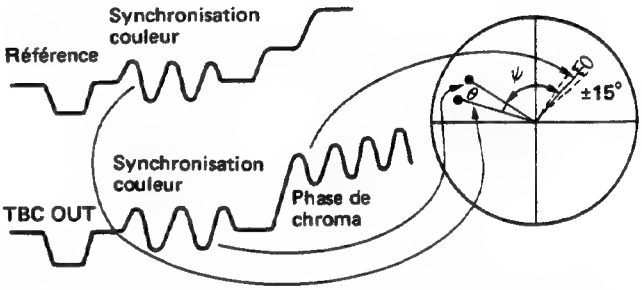
⑲ Réglage de phase de sousporteuse du système (SYSTEM SC PHASE) (pour le BVT-800PS(P) uniquement)
La phase de sousporteuse du signal de sortie peut être ajustée à celle du signal de référence sur une plage de réglage de 360°. Cette commande est sans effet sur le signal vidéo et sur la phase de synchronisation.

⑳ Réglage de phase H du système (SYSTEM H PHASE)
Le retard entre le signal de lecture et le signal de référence, retard qui est causé par la longueur du câble, peut être compensé en ajustant la phase H du système grâce à ce réglage. La plage de cette compensation va de –1 µsec. à +3 µsec. Sur l'illustration suivante, le retard de signal entre le seuil de référence et l'entrée sur le CBT est de 550 nsec. Ainsi, le signal de sortie du correcteur (TBC OUT) sera retardé de 550 nsec. supplémentaires pour revenir au seuil de référence et la phase doit donc être avancée de 1,1 µsec.





㉑ Réglage de synchronisation couleur/chroma (BURST/CHROMA) (pour le BVT-800PS(P) uniquement)
La phase de synchronisation couleur/chroma (ψ) du signal de sortie peut se régler dans une plage de ±15° quand l'interrupteur BURST/CHROMA PRESET se trouve à la position haute (manuel). Cette commande ne permet pas l'ajustement de θ.



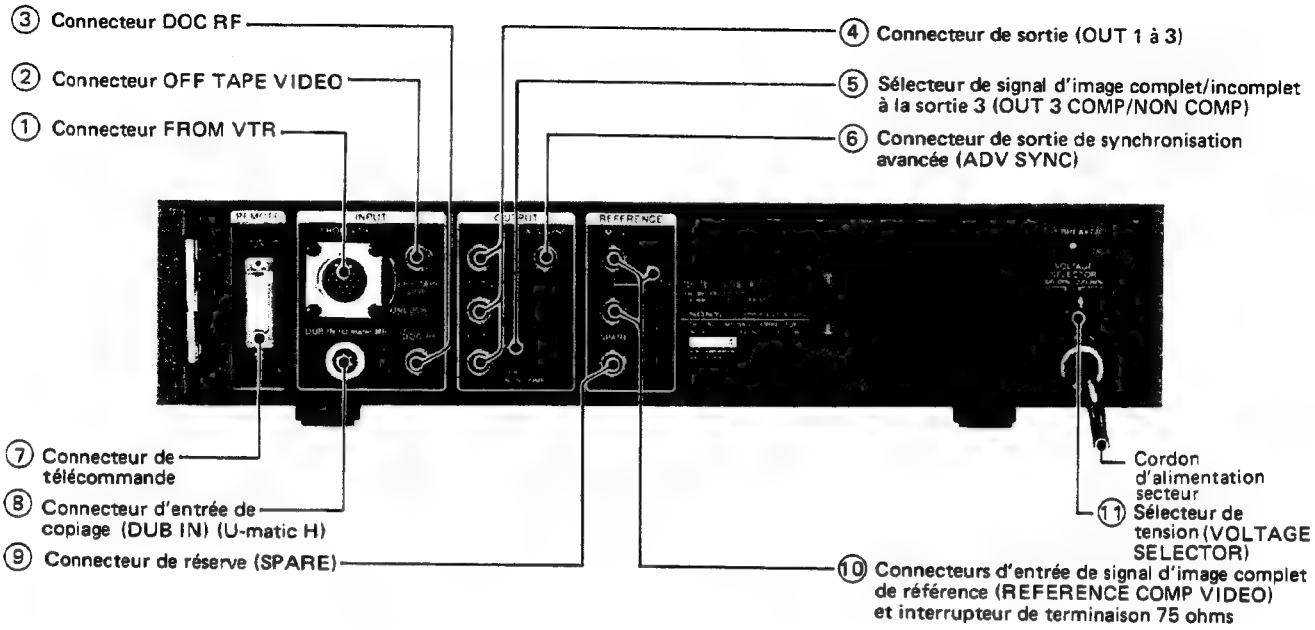
㉒ Interrupteur de préréglage de synchronisation couleur/chroma (BURST/CHROMA) (pour le BVT-800PS(P) uniquement)
On le laissera normalement à la position PRESET où le réglage BURST/CHROMA n'exerce aucune influence sur le signal de sortie. Quand cet interrupteur est à la position haute (manuel), le réglage BURST/CHROMA permet d'ajuster la phase de synchronisation couleur/chrominance.

㉓ Réglage de gain différentiel (DG) (pour le BVT-800PS(P) uniquement)
Le gain différentiel d'un magnétoscope U-matic peut se régler dans une plage de ±20%.

㉔ Sélecteur noir-blanc / couleur / auto (B / W / COLOR / AUTO) (pour le modèle PAL)
Sélecteur noir-blanc / auto (B / W / AUTO) (pour le modèle SECAM)
Choisir la position correspondant au signal raccordé au connecteur d'entrée OFF TAPE VIDEO.
B/W: Le signal d'entrée est traité comme un signal monochrome.
COLOR: Le signal d'entrée est traité comme un signal couleur.
AUTO: Le signal d'entrée est identifié comme signal monochrome ou signal couleur par son niveau de synchronisation couleur. Quand le signal de synchronisation couleur est inférieur au niveau de référence (300 mV) de 12 ± 3 dB, le signal est identifié comme le signal noir-blanc.

㉕ Sélecteur de dérivation/fonctionnement normal (BYPASS/NORMAL)
BYPASS: Le signal d'entrée ne passe pas par le circuit.
NORMAL: Position habituelle où l'erreur de base de temps du signal d'entrée est corrigée avant que le signal ne soit alimenté.

1-2-2. Panneau des connecteurs



① **Connecteur FROM VTR** (à 18 broches) (pour un magnétoscope de série BVU-800 et de série BVU-820)
Raccorder au connecteur TBC sur un magnétoscope de série BVU-800 ou BVU-820 à l'aide du câble à âmes multiples fourni. Cette connexion coupe l'entrée au connecteur OFF TAPE VIDEO ②.

② **Connecteur OFF TAPE VIDEO** (de type BNC)
Raccorder au connecteur de sortie vidéo du magnétoscope.

③ **Connecteur DOC RF** (de type BNC)
Raccorder au connecteur RF (OFF TAPE) du magnétoscope.

④ **Connecteurs de sortie OUT 1 à 3** (de type BNC)
Ces connecteurs fournissent les signaux vidéo et on les raccordera au connecteur d'entrée vidéo de l'équipement utilisé. La sortie du connecteur OUT 3 peut être réglée au signal d'image complet ou incomplet à l'aide du sélecteur COMP/NON COMP ⑤.

⑤ **Sélecteur de signal d'image complet/incomplet à la sortie 3 (OUT 3 COMP/NON COMP)**
Le signal de sortie du connecteur OUT 3 peut être changé par ce sélecteur.
COMP: Un signal d'image complet (VBS, identique à celui de OUT 1 et 2) est fourni.
NON COMP: Un signal incomplet d'image (VB) est fourni.

⑥ **Connecteur de sortie de synchronisation avancée (ADV SYNC OUTPUT)** (de type BNC)
Le signal de synchronisation qui a été avancé de 16 H par rapport au signal de référence est fourni ici. Raccorder à l'entrée de synchronisation sur le magnétoscope.

⑦ **Connecteur de télécommande** (à 15 broches)
Pour contrôler à distance le BVT-800PS, raccorder ici l'unité de télécommande BK-2007.

⑧ **Connecteur d'entrée de copiage (DUB IN) (U-matic H)** (à 7 broches)
Raccorder au connecteur DUB OUT sur le BVU-200P ou sur le BVU-200S et l'on peut obtenir une forte largeur de bande. A l'emploi de ce connecteur, on placera sur DUB le sélecteur COMP/DUB sur le panneau avant.

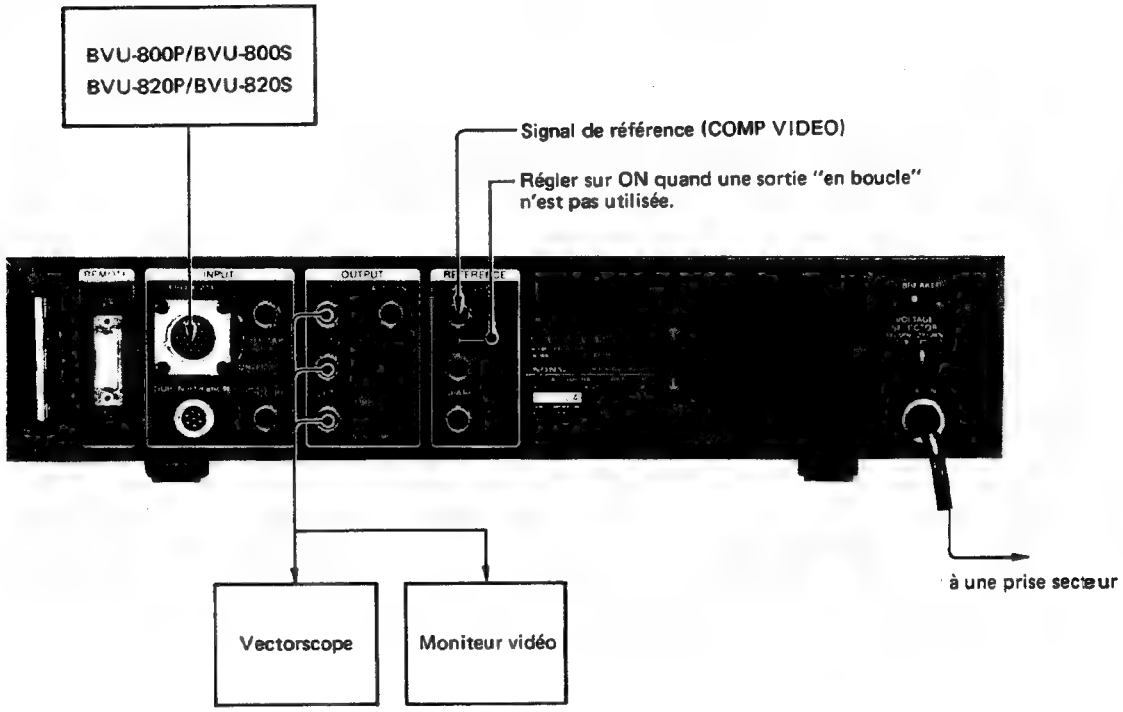
⑨ **Connecteur de réserve (SPARE)** (de type BNC)
Aucune connexion n'est effectuée ici.

⑩ **Connecteurs d'entrée de signal d'image complet de référence (REFERENCE COMP VIDEO)** (de type BNC) **et interrupteur de terminaison 75 ohms**
Raccorder ici un signal de référence. Comme ces deux connecteurs présentent une configuration "en boucle", le signal d'entrée de l'un est fourni directement à l'autre. A l'emploi d'une sortie "en boucle", veiller à placer l'interrupteur de terminaison 75 ohms sur OFF; on le laissera sur ON à l'emploi d'une sortie différente.

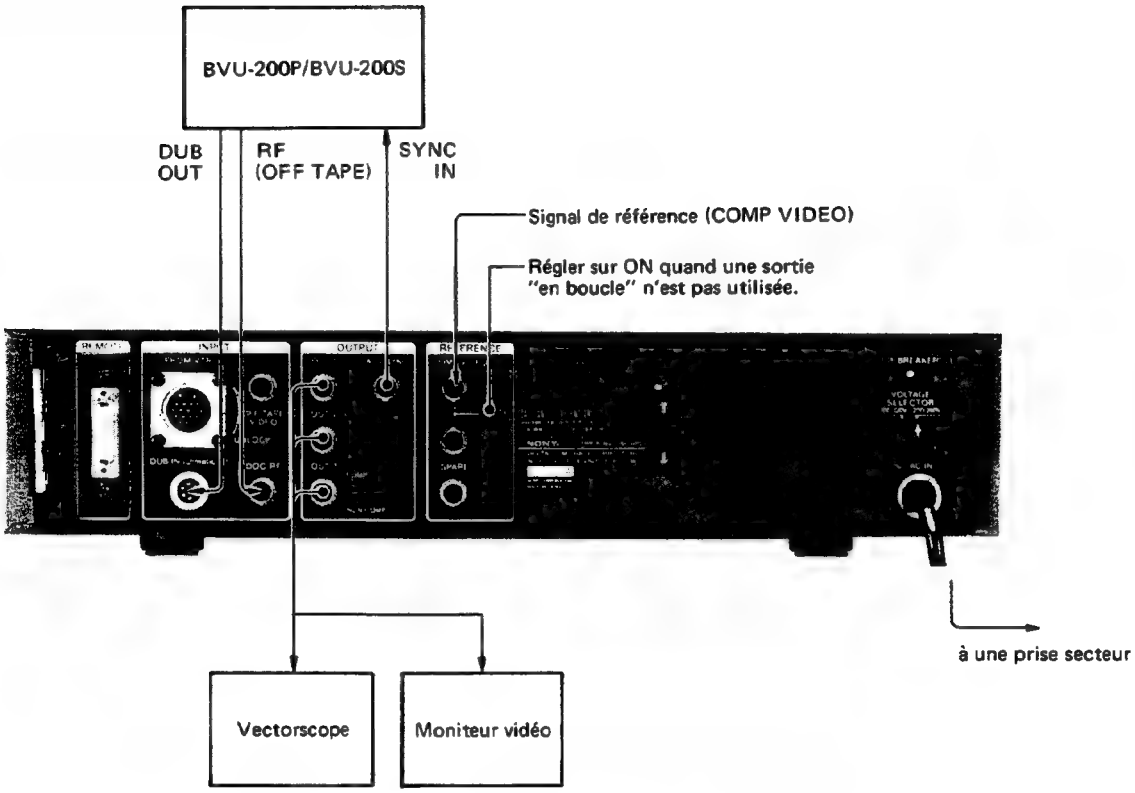
⑪ **Sélecteur de tension (VOLTAGE SELECTOR)**
Il doit être réglé à la tension du secteur local. Si un réglage de ce sélecteur s'impose, déposer le couvercle, appuyer sur le sélecteur, puis replacer le couvercle.

1-3. CONNEXIONS ET UTILISATION

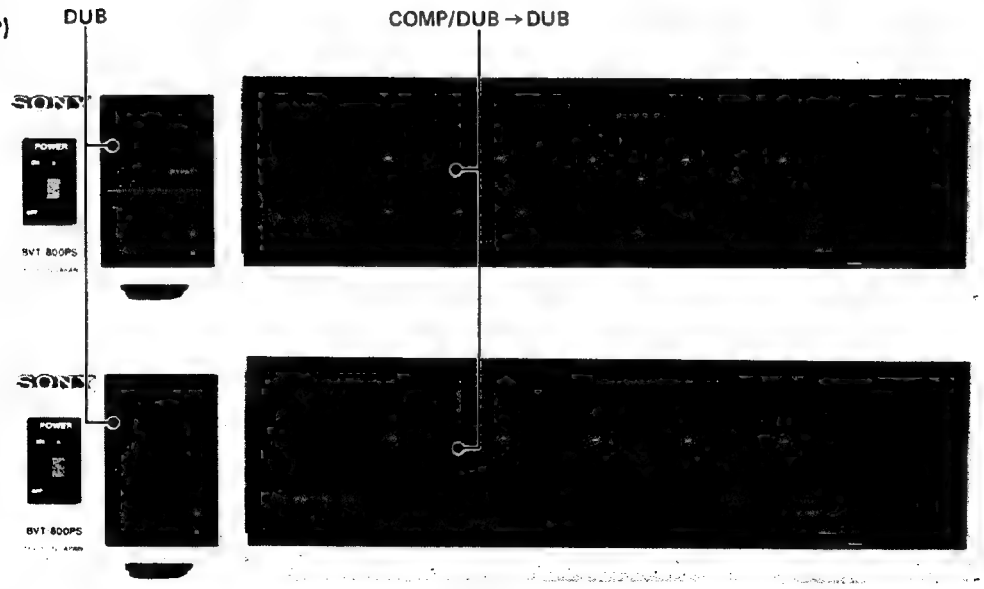
1-3-1. Connexions à un BVU-800P/BVU-800S et BVU-820P/BVU-820S



1-3-2. Connexion à un BVU-200P/BVU-200S

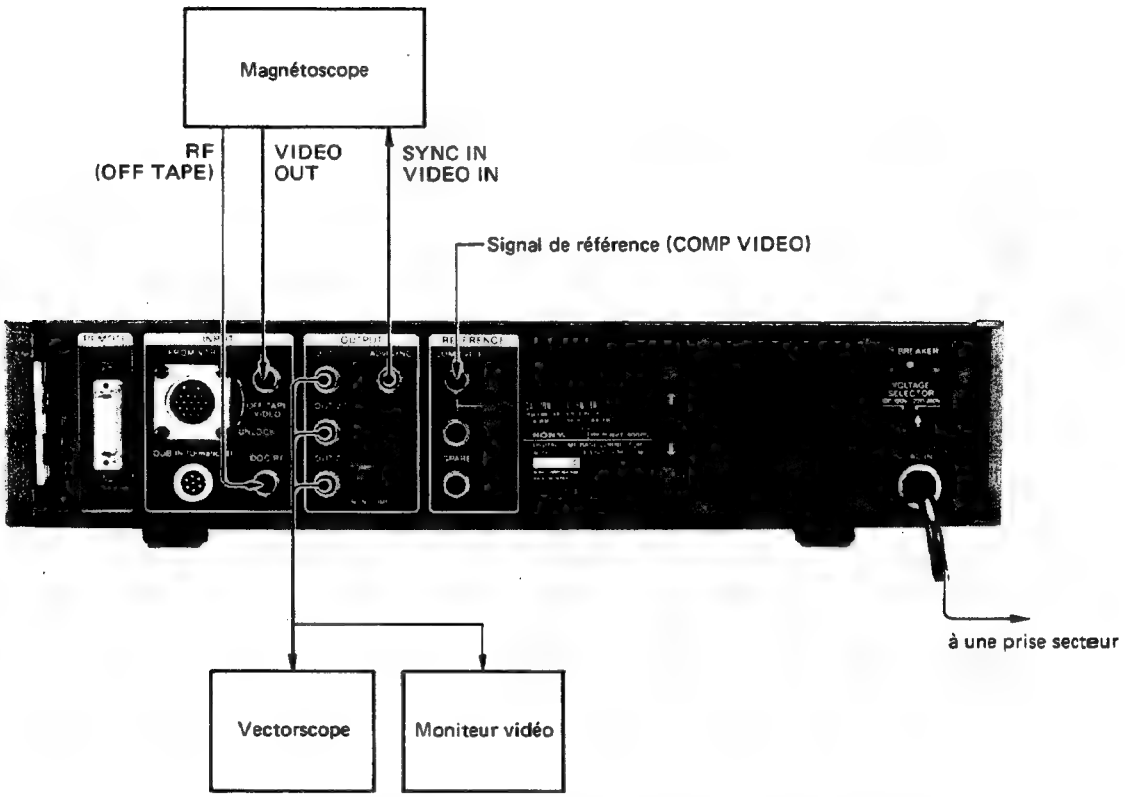


BVT-800PS(P)

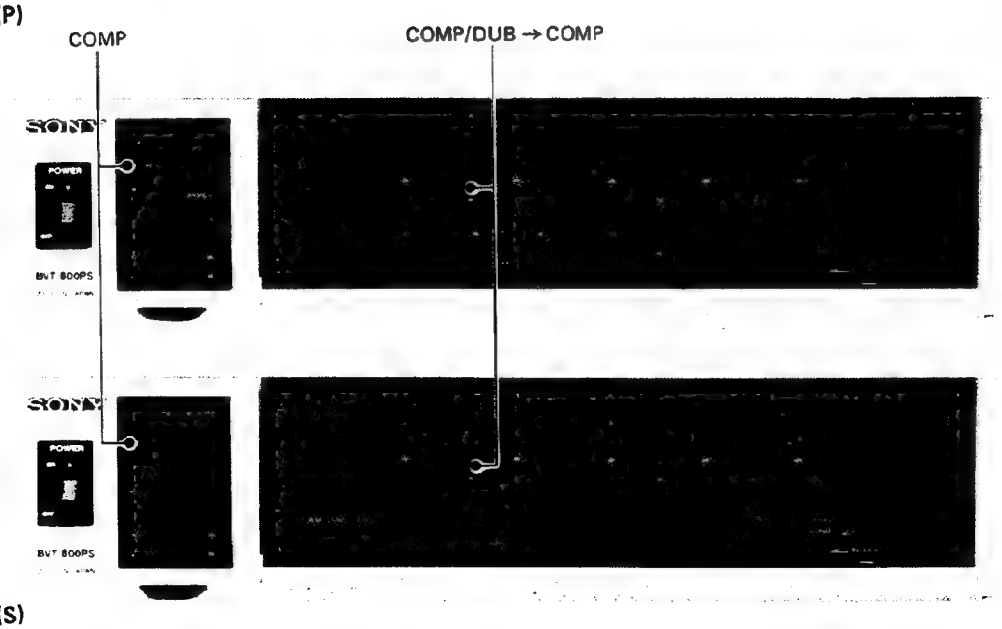


BVT-800PS(S)

1-3-3. Connexion à un magnétoscope autre que celui de série BVU qui est prévu d'un servosystème de cabestan



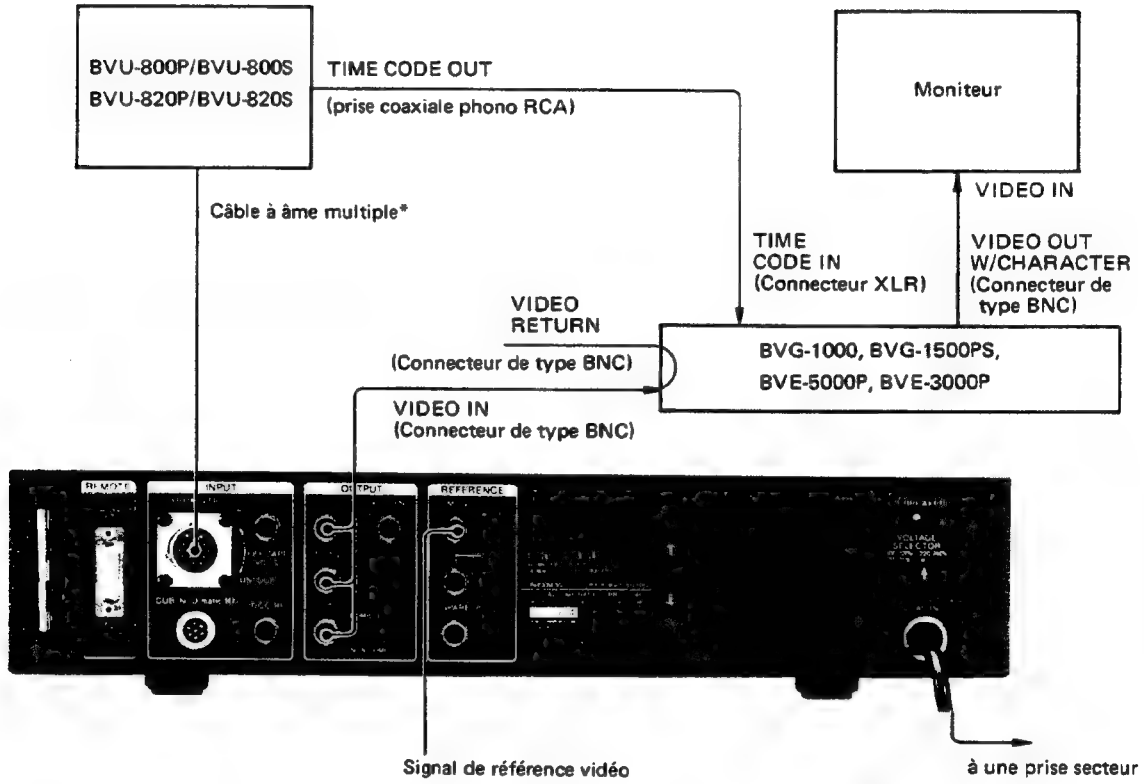
BVT-800PS (P)



BVT-800PS (S)

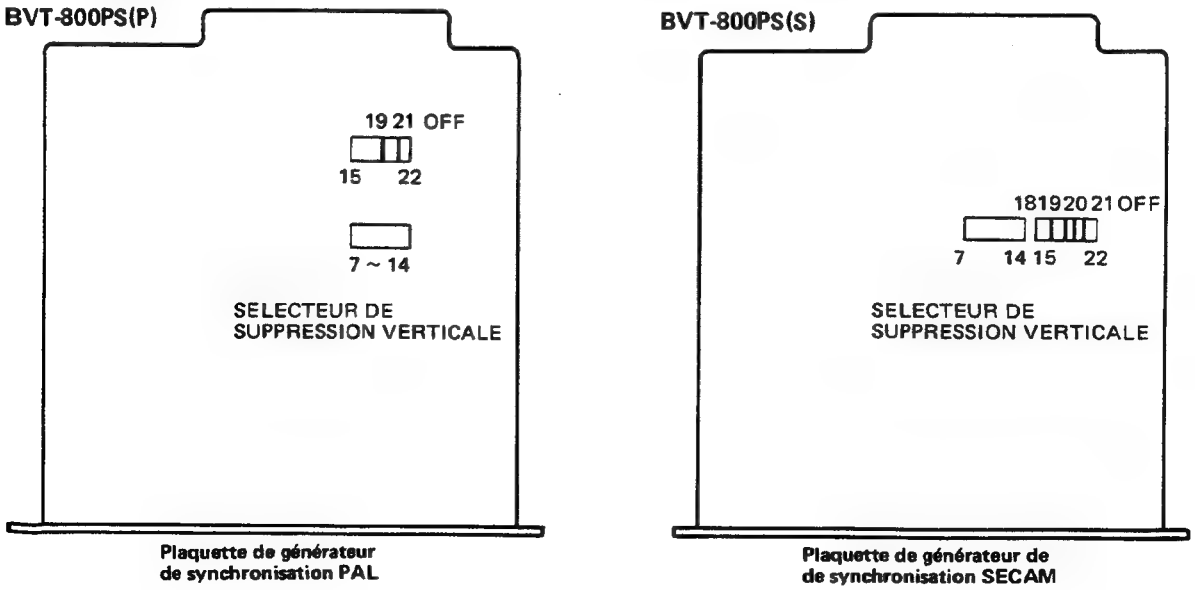
1-3-4. Connexion pour utiliser le VITC (code de temps à intervalle vertical)

Brancher un des magnétoscope BVU-800P, BVU-800S, BVU-820P ou BVU-820S et un des BVG-1500PS, BVG-1000, BVE-5000P ou BVE-3000P.



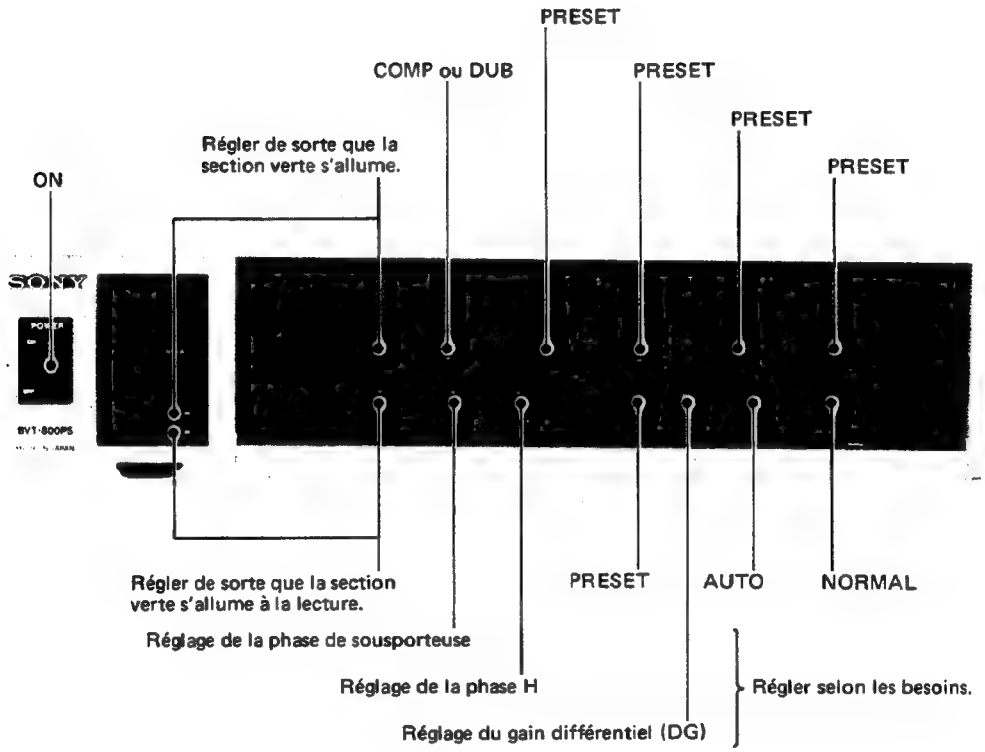
* Quand le magnétoscope de série BVU-200 est utilisé, se référer au chapitre 1-3-2.

Quand le VITC est utilisé, s'assurer de placer les sélecteurs de suppression verticale pour 19 et 21 lignes du modèle PAL ou pour 18, 19, 20 et 21 lignes du modèle SECAM, sur OFF.

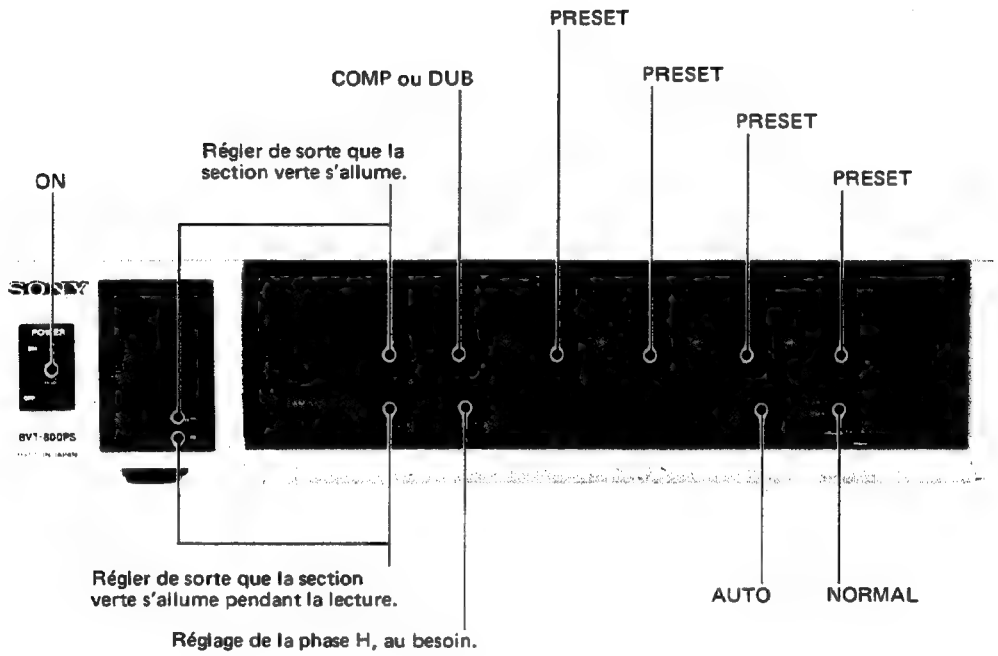


1-3-5. Réglages Fondamentaux

BVT-800PS(P) pour système PAL



BVT-800PS(S) pour système SECAM



1-4. SPECIFICATIONS

Données générales

Alimentation électrique
Secteur 100 - 120 V (90 - 132 V)/220 - 240 V (198 - 264 V) réglable, 50/60 Hz (48 - 62 Hz)

Consommation électrique
100 W

Plage des températures de fonctionnement
De 0°C à 40°C (de 32°F à 104°F)

Plage des températures d'immobilisation
De −10°C à +60°C (de 14°F à 140°F)

Humidité De 10 à 90% (non condensation)

Dimensions 424 x 88 x 515 mm (l/h/p)
(16 3/4 x 3 1/2 x 20 3/8 pouces)

Poids 13 kg (28 livres 10 onces)

Accessoires fournis

Plaquette d'extension EB-9A x1
Nécessaire pour montage en rack x1
(Poignée x2, Vis B4x12 x4, Vis K4x10 x4)
Câble à âmes multiples x1
Mode d'emploi et d'entretien x1

La conception et les spécifications peuvent être modifiées sans préavis.

		BVT-800PS(P) PAL	BVT-800PS(S) SECAM
Vidéo	Largeur de bande COMP IN	Y: 2,5 MHz ±0,4 dB, 3,25 MHz −3 dB C: ±0,7 MHz −3 dB	Y: 2,5 MHz ±0,4 dB, 3,25 MHz −3 dB C: ±0,5 MHz −3 dB
	DUB IN	Y: 3,5 MHz ±0,4 dB, 4,3 MHz −3 dB C: ±0,75 MHz −3 dB	Y: 3,5 MHz ±0,4 dB, 4,3 MHz −3 dB C: ±0,5 MHz −3 dB
	Rapport signal/bruit	55 dB	55 dB
	Gain différentiel	2%	—
	Phase différentielle	2°	—
	Facteur K (impulsion 2T) COMP IN	4%	4%
	DUB IN	2%	2%
	Retard chrominance/luminance	10 nsec.	10 nsec.
	Plage de correction	29 H(c-c)	29 H(c-c)
	Erreur résiduelle	Couleur: ±2,5 nsec. Monochrome: ±15 nsec.	±15 nsec.
Signal d'entrée	Vidéo bande coupée	Composite 1,0 V(c-c) ±3 dB (réglable), 75 ohms	
	Entrée copiage	Luminance: 0,5 V(c-c) ±3 dB (réglable), 75 ohms Chrominance: 0,5 V(c-c), 75 ohms	
	Signal de référence DOC	0,5 V ±6 dB, 75 ohms	
	Référence de signal d'image complet	1,0 V(c-c) ±3 dB, 75 ohms en/hors service	
Signal de sortie	Sync d'avance	2,2 V ±0,3 V, 75 ohms	
	Sortie vdéo	1: 1,0 V(c-c) 2: 1,0 V(c-c) 3: 1,0 V(c-c) /0,7 V(c-c) (signal incomplet d'image)	
Commandes de sortie	Niveau vidéo	±3 dB	±3 dB (luminance seulement)
	Niveau chroma	±3 dB	±3 dB
	Niveau du noir	0 – 0,11 V	0 – 0,11 V
	Phase de synchronisation couleur/chroma	±15°	—
	Compensateur DG	±20%	—
	Phase sync de système	de −1 à +3 µsec.	de −1 à +3 µsec.
	Phase sousporteuse de système	plus de ±180°	—
	Retard Y/C	±150 nsec.	±150 nsec.

TEIL 1
BETRIEB

Bei Modell BVT-800PS handelt es sich um einen digitalen Time-Base-Corrector, der an einen Videorecorder mit Farbträger-Heruntersetzung und Capstan-Servosystem angeschlossen werden kann und das Wiedergabesignal für die Anforderungen im Rundfunkbereich aufarbeitet.

1-1. BESONDERE MERKMALE

Breiter Korrekturbereich von 29 H
Ein Fenster von 29 H (ss) erlaubt eine Zeitbasiskorrektur über einen weiten Bereich. Selbst wenn der Fehler diesen Korrekturbereich überschreitet, tritt weder eine horizontale Verschiebung noch eine Synchronisationsverschiebung auf.

Sowohl für PAL- als auch SECAM-Systeme verwendbar
Zur Umstellung von PAL auf SECAM braucht im BVT-800PS lediglich eine Leiterplatte ausgetauscht zu werden. PAL- und SECAM-Indikatoren zeigen an, welche Leiterplatte momentan im BVT-800PS eingesetzt ist.

Dynamic Tracking* (Dynamische Spurlage) für weiten Variationsbereich der Wiedergabegeschwindigkeit
Wird ein U-matic Videorecorder der BVU-820-Serie über ein mehradriges Kabel angeschlossen, so ist ein Variieren der Wiedergabegeschwindigkeit von −1 bis +3facher Normalgeschwindigkeit ohne Störungen vom Spurrasen möglich.

Kompakte und leichte Auslegung
Durch neue ICs im A/D- und D/A-Wandler sowie eines neu entwickelten Signalprozessors konnte der BVT-800PS äußerst kompakt und leicht ausgelegt werden.

Digitaler Dropoutkompensator
Ein hochwertiger digitaler Dropoutkompensator ersetzt Dropout-Stellen im Luminanzsignal durch das Signal der vorhergehenden Zeile und Dropout-Stellen im Chromasignal durch das Signal der zweitletzten Zeile. Da das Ersetzen der Zeilen digital geschieht, tritt keine Qualitätsminderung auf.

Videoprozessor
Videopegel, Chromapegel, Schwarzpegel, Burst/Chroma-Phase (nur beim PAL-Modell), Hilfsträger-Phase (nur beim PAL-Modell) und Sync-Phase können eingestellt werden. Burst/Chroma-Phase, System-Hilfsträger-Phase und System-Sync-Phase können ohne gegenseitige Beeinflussung eingestellt werden.

Eingebauter Synchronsignalgenerator
Der BVT-800PS kann mit einem externen Synchronsignal oder mit dem vom eingebauten Synchronsignalgenerator gelieferten Signal arbeiten. Die Hilfsträgerfrequenzstabilität beträgt ±1 Hz bei 20°C ±5°C (PAL-Modell) bzw. ±100 Hz bei 0°C bis 40°C (SECAM-Modell).

Y/C-Verzögerungsregler
Die Y/C-Verzögerung kann in einem Bereich von ±150 nsec eingestellt werden.

DG-Kompensation
Ein Differenzialgewinn (DG) bis zu 20% kann zu null gemacht werden. (Nur beim PAL-Modell)

8-Bit-Abtastung, Y:10,9 MHz/C:5,4 MHz
Das Wiedergabesignal wird durch eine 8-Bit-Abtastung (Y:10,9 MHz/C:5,4 MHz) in ein Digitalsignal umgewandelt, so daß beim Kopieren eines Bandes keinerlei Qualitätsminderung auftritt.

Synchronisierte Wiedergabe mit hoher Geschwindigkeit
Videorecorder der BVU-800- oder BVU-820-Serie liefern bis zur 5fachen Normalgeschwindigkeit in Vorwärts- und Rückwärtsrichtung, ein mit dem Referenzsignal synchronisiertes Farb-Wiedergabebild. Bei einem Schwarzweißbild ist eine synchronisierte Wiedergabe von −40 bis +40facher Normalgeschwindigkeit möglich.

Wahl der V-Austastung
Zur Einstellung der V-Austastung können die H-Zeilen von der 7 bis zur 22 unabhängig an den Schaltern der eingebauten Leiterplatte ein- und ausgeschaltet werden.

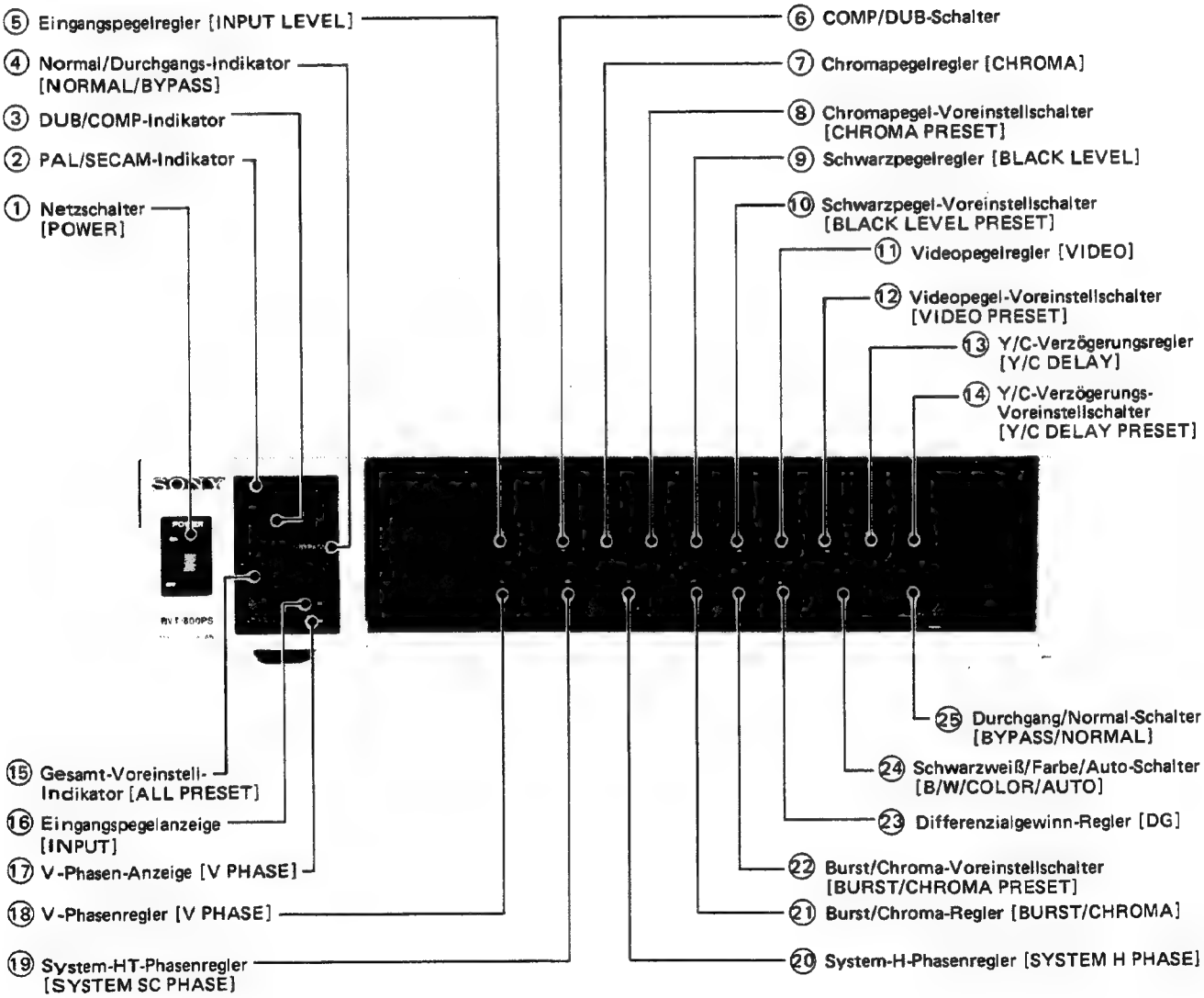
Fernbedienung
Mit den TBC-Fernbedien-Feld BK-2007 (Sonderzubehör) können folgende Pegel- und Phaseneinstellungen fernbedient vorgenommen werden.
BVT-800PS(P), PAL-Modell: Chromapegel, Videopegel, Schwarzpegel, System-HT-Phase, System-Sync-Phase, Burst/Chroma-Phase
BVT-800PS(S), SECAM-Modell: Chromapegel, Videopegel, Schwarzpegel, System-HT-Phase.

* Dynamic Tracking ist ein Warenzeichen der Sony Corporation.

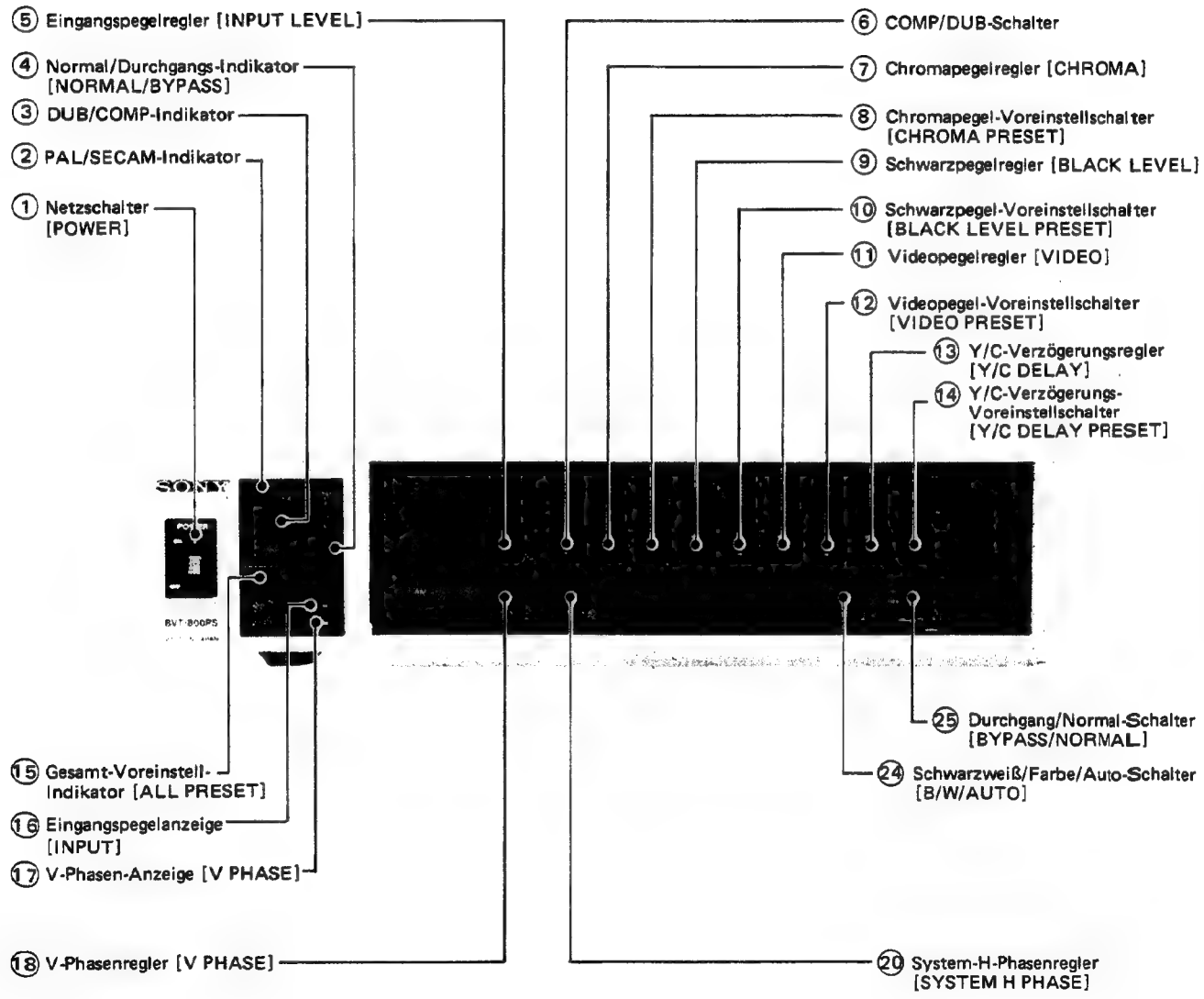
1-2. LAGE UND FUNKTION DER BEDIENUNGSELEMENTE

1-2-1. Bedienungspult

BVT-800PS(P), PAL-Modell



BVT-800PS(S), SECAM-Modell



① Netzschalter [POWER]
Zum Einschalten auf die „ON"-Seite des Schalters drücken.

② PAL/SECAM-Indikator
Ist die PAL-Synchronsignalgeneratorplatte eingesetzt, leuchtet der PAL-Indikator, und ist die SECAM-Synchronsignalgeneratorplatte eingesetzt, leuchtet der SECAM-Indikator.

③ DUB/COMP-Indikator
Wenn der COMP-DUB-Schalter auf DUB gestellt ist oder ein Videorecorder der BVU-800/820-Serie an den FROM VTR-Anschluß über ein mehradriges Kabel angeschlossen ist, so leuchtet der DUB-Indikator. Ist der BVU-820P jedoch auf Wiedergabe mit dynamischer Spurlage oder Simultan-Wiedergabe geschaltet, so leuchtet der COMP-Indikator. In allen anderen Fällen leuchtet der COMP-Indikator.

④ Normal/Durchgangs-Indikator [NORMAL/BYPASS]
Entsprechend der Stellung des BYPASS/NORMAL-Schalters leuchtet der NORMAL- oder der BYPASS-Indikator.

⑤ Eingangspegelregler [INPUT LEVEL]
Der Videoeingangspegel kann in einem Bereich von ±3 dB eingestellt werden. Bei korrekter Pegeleinstellung leuchtet der grüne Indikator der INPUT-Pegelanzeige.

⑥ COMP/DUB-Schalter
Wird ein BVU-200P oder ein BVU-200S an den DUB IN (U-matic H)-Anschluß mit einem Überspielkabel angeschlossen, so ist dieser Schalter auf DUB zu stellen. Der DUB-Indikator leuchtet dann auf. Wird ein anderer Videorecorder an den OFF TAPE VIDEO-Anschluß angeschlossen, so ist dieser Schalter auf COMP zu stellen. Der COMP-Indikator leuchtet dann.

- Wird ein Videorecorder der BVU-800- oder BVU-820-Serie an den FROM VTR-Anschluß über ein mehradriges Kabel angeschlossen, so schaltet der BVT-800PS automatisch auf die Überspielfunktion unabhängig von der Stellung dieses Schalters und unabhängig davon, ob der DUB-Indikator leuchtet. Ist der BVU-820P jedoch auf Wiedergabe mit dynamischer Spurlage oder Simultan-Wiedergabe geschaltet, so wird der BVT-800PS zwangsweise auf COMP-Funktion geschaltet und der COMP-Indikator leuchtet.
- Bei Überspielbetrieb wird das Y/C-Trennungsfilter übergangen, so daß das Luminanzsignal eine größere Bandbreite aufweist.

⑦ Chromapegelregler [CHROMA]
Steht der CHROMA PRESET-Schalter in der oberen Stellung (manuell), so kann der Chromapegel des Ausgangssignals in einem Bereich von ±3 dB eingestellt werden. Bei einem 100% Standard-Farbbalkensignal erhält man dann am VIDEO OUT-Anschluß einen Chromapegel von 120%.

- Bei der Aufbereitung eines SECAM-Signals, ist darauf zu achten, eine Übermodulation zu vermeiden.

⑧ Chromapegel-Voreinstellschalter [CHROMA PRESET]
Normalerweise auf PRESET stellen. In dieser Stellung hat der CHROMA-Regler keinen Einfluß auf das Ausgangssignal. Steht der Schalter dagegen in der oberen Stellung, so kann der Chromapegel am CHROMA-Regler eingestellt werden.

⑨ Schwarzpegelregler [BLACK LEVEL]
Steht der BLACK LEVEL PRESET-Schalter in der oberen Stellung (manuell), so kann der Schwarzpegel des Ausgangssignals von 0 bis 0,11 V eingestellt werden.

⑩ Schwarzpegel-Voreinstellschalter [BLACK LEVEL PRESET]
Normalerweise auf PRESET stellen. In dieser Stellung hat der BLACK LEVEL-Regler keinen Einfluß auf das Ausgangssignal. Wird der Schalter dagegen nach oben (manuell) gestellt, so kann der Schwarzpegel am BLACK LEVEL-Regler eingestellt werden.

⑪ Videopegelregler [VIDEO]
Steht der VIDEO PRESET-Schalter oben (manuell), so kann der Videopegel folgendermaßen eingestellt werden:
BVT-800PS(P)
Das Video-Ausgangssignal (Luminanz und Chroma) kann in einem Bereich von ±3 dB eingestellt werden. Der Synchronsignalpegel wird dagegen nicht durch diesen Regler beeinflußt.
BVT-800PS(S)
Es wird nur der Luminanzpegel des Ausgangssignals in einem Bereich von ±3 dB eingestellt, um eine Übermodulation des Chromasignals zu vermeiden. Der Regler hat dagegen keinen Einluß auf das Synchron- und Chromasignal.

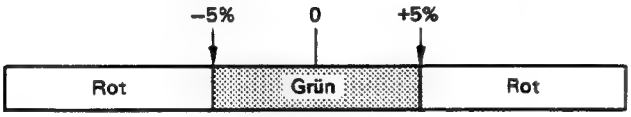
⑫ Videopegel-Voreinstellschalter [VIDEO PRESET]
Normalerweise auf PRESET stellen. Der VIDEO-Pegelregler hat dann keinen Einfluß auf das Ausgangssignal. Wird der Schalter nach oben gestellt (manuell), so kann der Videopegel am VIDEO-Pegelregler eingestellt werden.

⑬ Y/C-Verzögerungsregler [Y/C DELAY]
Steht der Y/C DELAY PRESET-Schalter in der oberen Stellung (manuell), so kann die Y/C-Verzörung mit diesem Regler zu null gemacht werden, wenn die Y/C-Verzögerung des Eingangssignals einen Bereich von ±150 nsec nicht überschreitet.

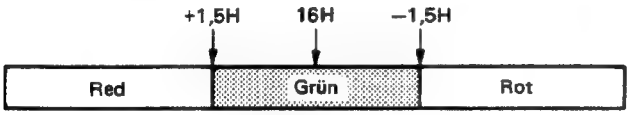
⑭ Y/C-Verzögerungs-Voreinstellschalter [Y/C DELAY PRESET]
Normalerweise auf PRESET stellen. Der Verzögerungswert ist dann 0. Wird der Schalter nach oben gestellt, so kann die Y/C-Verzögerung am Y/C DELAY-Regler eingestellt werden.

⑮ Gesamt-Voreinstell-Indikator [ALL PRESET]
Dieser Indikator leuchtet, wenn der CHROMA PRESET-, BLACK LEVEL PRESET-, Y/C DELAY PRESET, VIDEO PRESET- (und bei BVT-800PS(P) auch BURST/CHROMA PRESET-) Schalter auf PRESET gestellt sind.

⑯ Eingangspegelanzeige [INPUT]
Hier wird der Synchronsignalpegel angezeigt. Bei richtiger Einstellung des Eingangspegels leuchtet der grüne Indikator.



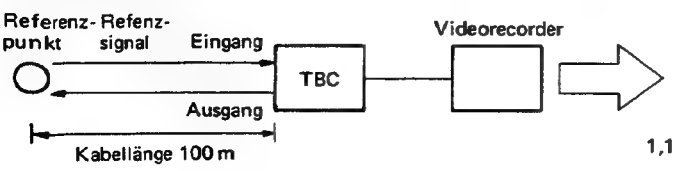
⑰ V-Phasen-Anzeige [V PHASE]
Der BVT-800PS verzögert das Ausgangssignal um 16 H gegenüber dem Eingangssignal, so daß das Videorecorder-Wiedergabesignal um 16 H gegenüber dem Referenzsignal voreilt. Liegt die Verzögerung des Wiedergabesignals in einem Bereich von 16 H ± 1,5 H, so leuchtet der grüne Indikator der Anzeige. Stellen Sie den V PHASE-Regler so ein, daß dieser grüne Indikator leuchtet.



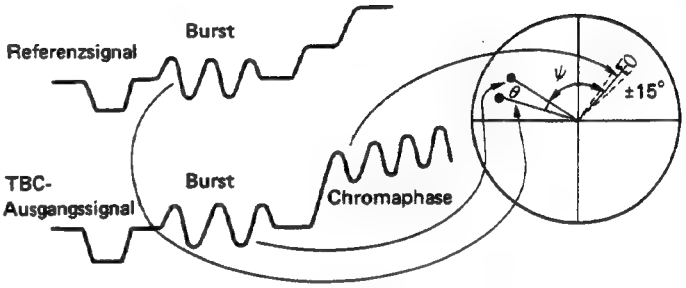
⑱ V-Phasenregler [V PHASE]
Hier kann das Wiedergabesignal so eingestellt werden, daß es um 16 H gegenüber dem Referenzsignal voreilt. Bei richtiger Einstellung leuchtet der grüne Indikator der V PHASE-Anzeige.

⑲ System-HT-Phasenregler [SYSTEM SC PHASE] (nur bei BVT-800PS(P))
Die Hilfsträgerphase des Ausgangssignals kann hier dem Referenzsignal angepaßt werden. Der Einstellbereich beträgt 360°. Dieser Regler hat keinen Einfluß auf die Video- und Sync-Phase.

⑳ System-H-Phasenregler [SYSTEM H PHASE]
Die durch das Kabel verursachte Verzögerung zwischen Wiedergabe- und Referenzsignal kann kompensiert werden, indem an diesem Regler die System-H-Phase eingestellt wird. Der Einstellbereich beträgt –1 µsec +3 µsec.
In der folgenden Abbildung beträgt die Signalverzögerung zwischen Referenzpunkt und Eingang des TBC 550 nsec. Bei der Rückkehr zum Referenzpunkt wird das TBC-Ausgangssignal noch einmal um 550 nsec verzögert, so daß eine Phasenvoreilung von 1,1 µsec eingestellt werden muß.



㉑ Burst/Chroma-Regler [BURST/CHROMA] (nur bei BVT-800PS(P))
Hier kann die Burst/Chroma-Phase (ψ) des Ausgangssignals in einem Bereich von ±15° eingestellt werden, wenn der BURST/CHROMA PRESET-Schalter in der oberen Position (manuell) steht. Dieser Regler dient nicht zur Einstellung von θ.

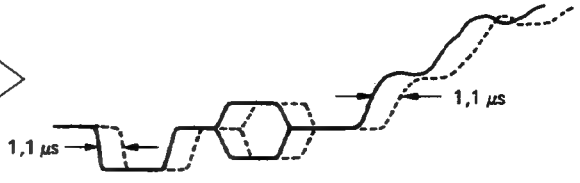


㉒ Burst/Chroma/Voreinstellschalter [BURST/CHROMA PRESET] (nur bei BVT-800PS(P))
Normalerweise auf PRESET stellen. Der BURST/CHROMA-Regler hat dann keinen Einfluß auf das Ausgangssignal. Wird der Schalter dagegen in die oberen Position (manuell) gestellt, so kann die Burst/Chroma-Phase am BURST/CHROMA-Regler eingestellt werden.

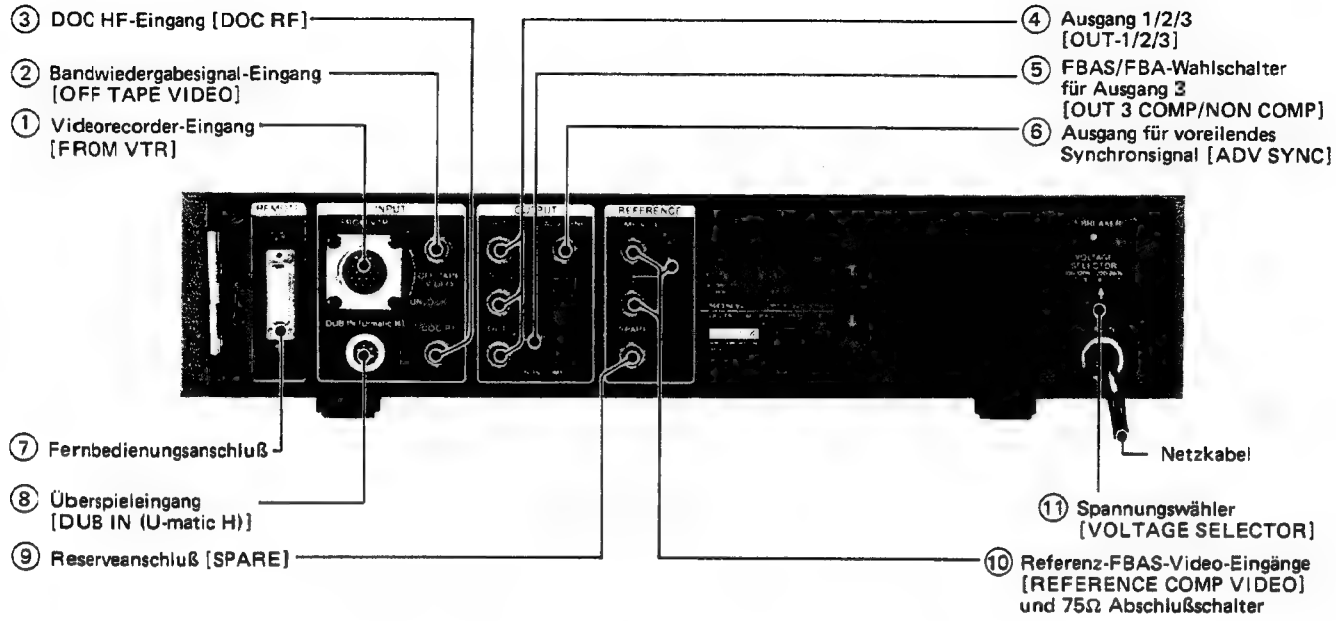
㉓ Differenzialgewinn-Regler [DG] (nur bei BVT-800PS(P))
Hier kann die Differenzialphase eines U-matic Videorecorders in einem Bereich von ±20% eingestellt werden.

㉔ Schwarzweiß / Farbe / Auto-Schalter [B / W / COLOR / AUTO] (PAL-Modell)
Schwarzweiß / Auto-Schalter [B / W / AUTO] (SECAM-Modell)
Dieser Schalter ist entsprechend des dem OFF TAPE VIDEO-Anschluß zugeleiteten Signals einzustellen.
B/W: Das Eingangssignal wird als Schwarzweißsignal behandelt.
COLOR: Das Eingangssignal wird als Farbsignal behandelt.
AUTO: Die Umschaltung zwischen Schwarzweiß und Farbe erfolgt automatisch durch Erkennung des Burstsignals. Liegt der Burstsignalpegel um 12 ± 3 dB unter dem Referenzpegel (300 mV), so wird das Signal als Schwarzweiß-Signal behandelt.

㉕ Durchgang/Normal-Schalter [BYPASS/NORMAL]
BYPASS: Das Eingangssignal umgeht die Schaltkreise und wird direkt dem Ausgang zugeleitet.
NORMAL: Verwenden Sie normalerweise diese Stellung. Der Zeitbasisfehler des Eingangssignals wird korrigiert, und das korrigierte Signal kann am Ausgang abgegriffen werden.



1-2-2. Anschlußtafel



① **Videorecorder-Eingang [FROM VTR]** (18-polig, für Videorecorder der BVU-800- und BVU-820-Serie)
Verbinden Sie diesen Eingang über das mitgelieferte mehradrige Kabel mit dem TBC-Anschluß eines Videorecorders der BVU-800- oder BVU-820-Serie. Der OFF TAPE VIDEO-Eingang ② wird dann desaktiviert.

② **Bandwiedergabesignal-Eingang [OFF TAPE VIDEO]** (BNC-Buchse)
Zum Anschluß an den Videoausgang des Videorecorders.

③ **DOC HF-Eingang [DOC RF]** (BNC-Buchse)
Zum Anschluß an den RF (OFF TAPE)-Anschluß des Videorecorders.

④ **Ausgang 1/2/3 [OUT-1/2/3]** (BNC-Buchsen)
Hier liegt das Videoausgangssignal an. Verbinden diese Ausgänge mit den Eingängen der zu verwendenden Geräte. Das am OUT-3-Anschluß herausgeführte Videosignal kann am COMP/NON COMP-Umschalter ⑤ zwischen FBAS und FBA umgeschaltet werden.

⑤ **FBAS/FBA-Wahlschalter für Ausgang 3 [OUT 3 COMP/NON COMP]**
Zur Umschaltung des am OUT-3-Anschluß herausgeführten Signals.
COMP: Es liegt ein FBAS-Signal an (genau wie am OUT-1- und OUT-2-Anschluß).
NON COMP: Es liegt ein FBA-Signal an.

⑥ **Ausgang für voreilendes Synchronsignal [ADV SYNC]** (BNC-Buchse)
Hier liegt ein um 16 H gegenüber dem Referenzsignal voreilendes Synchronsignal an. Verbinden Sie diese Buchse mit dem Synchronsignaleingang eines Videorecorders.

⑦ **Fernbedienungsanschluß** (15-polig)
Hier kann zur Fernbedienung des BVT-800PS das TBC-Fernbedien-Feld BK-2007 angeschlossen werden.

⑧ **Überspieleingang [DUB IN (U-matic H)]** (7-polig)
Wird dieser Anschluß an den DUB OUT-Anschluß eines BVU-200P oder BVU-200S Videorecorders angeschlossen, so erhält man eine größere Bandbreite. Stellen Sie bei Verwendung dieses Anschlusses den COMP/DUB-Schalter am vorderen Bedienungspult auf DUB.

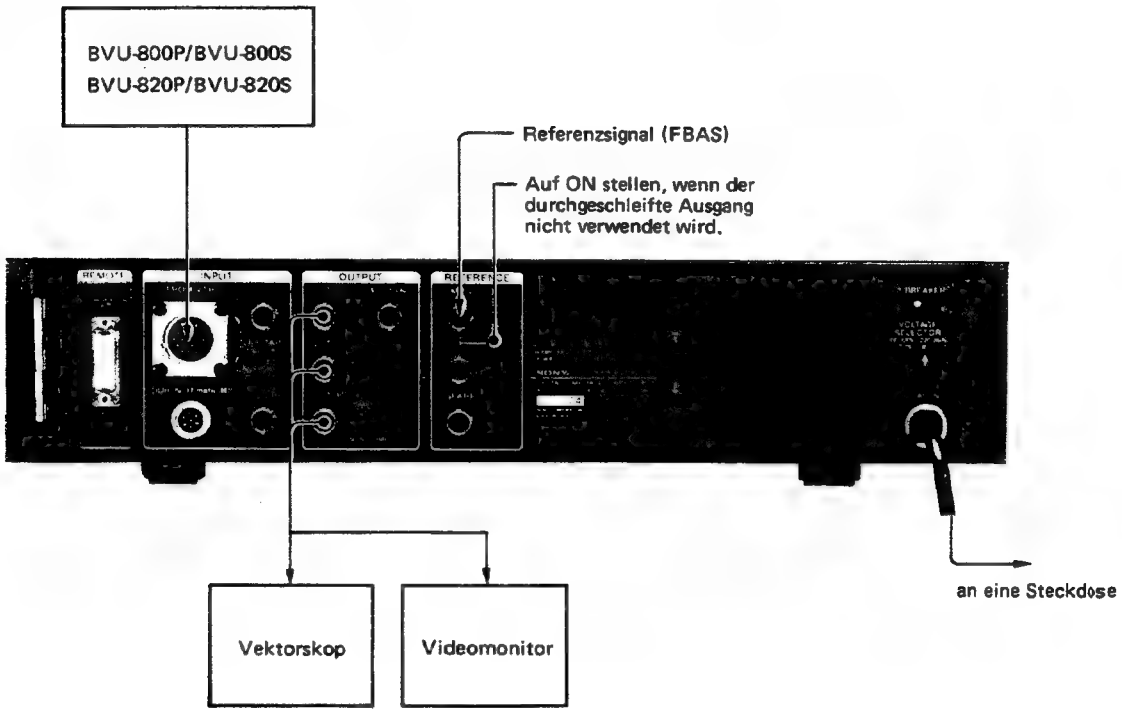
⑨ **Reserveanschluß [SPARE]** (BNC-Buchse)
Kein Anschluß erforderlich.

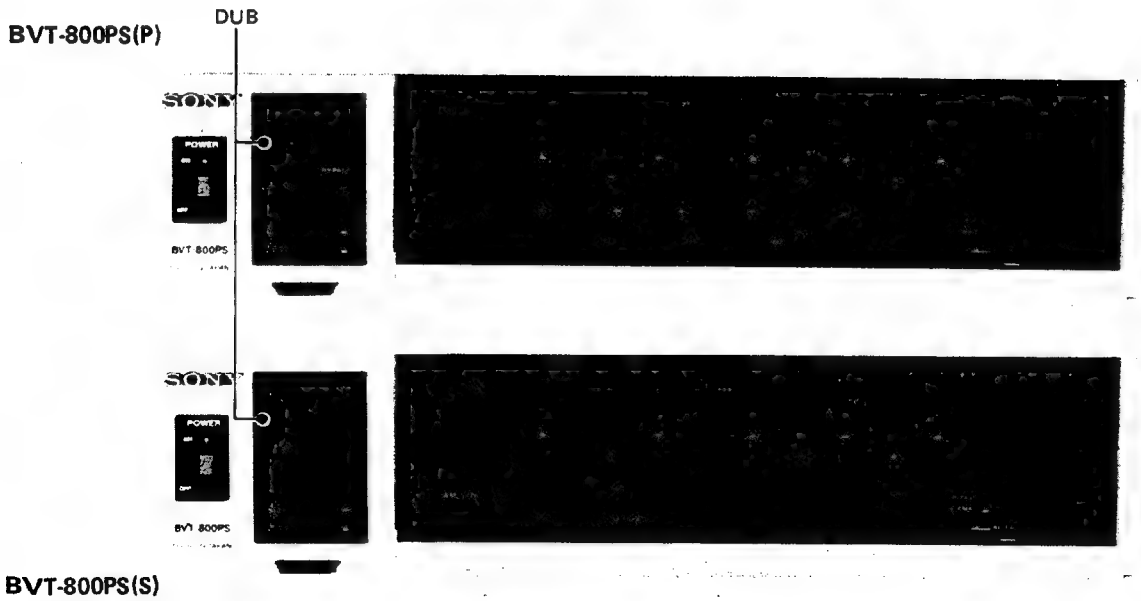
⑩ **Referenz-FBAS-Video-Eingänge [REFERENCE COMP VIDEO] und 75Ω Abschlußschalter**
Leiten Sie hier ein Referenzsignal (FBAS oder Burst-Synchron) zu. Die beiden Eingänge sind durchgeschleift, so daß das einem der beiden Eingänge zugeleitete Signal direkt zum anderen Eingang geleitet wird. Wenn ein durchgeschleifter Ausgang verwendet wird, muß der 75Ω Abschlußschalter auf OFF gestellt werden. Wird kein durchgeschleifter Ausgang verwendet, so ist der Schalter auf ON zu stellen.

⑪ **Spannungswähler [VOLTAGE SELECTOR]**
Zur Einstellung der Netzspannung. Ist eine Umstellung erforderlich, so nehmen Sie die Kappe ab, stellen Sie den Schalter um, indem Sie ihn drücken, und bringen Sie die Kappe wieder an.

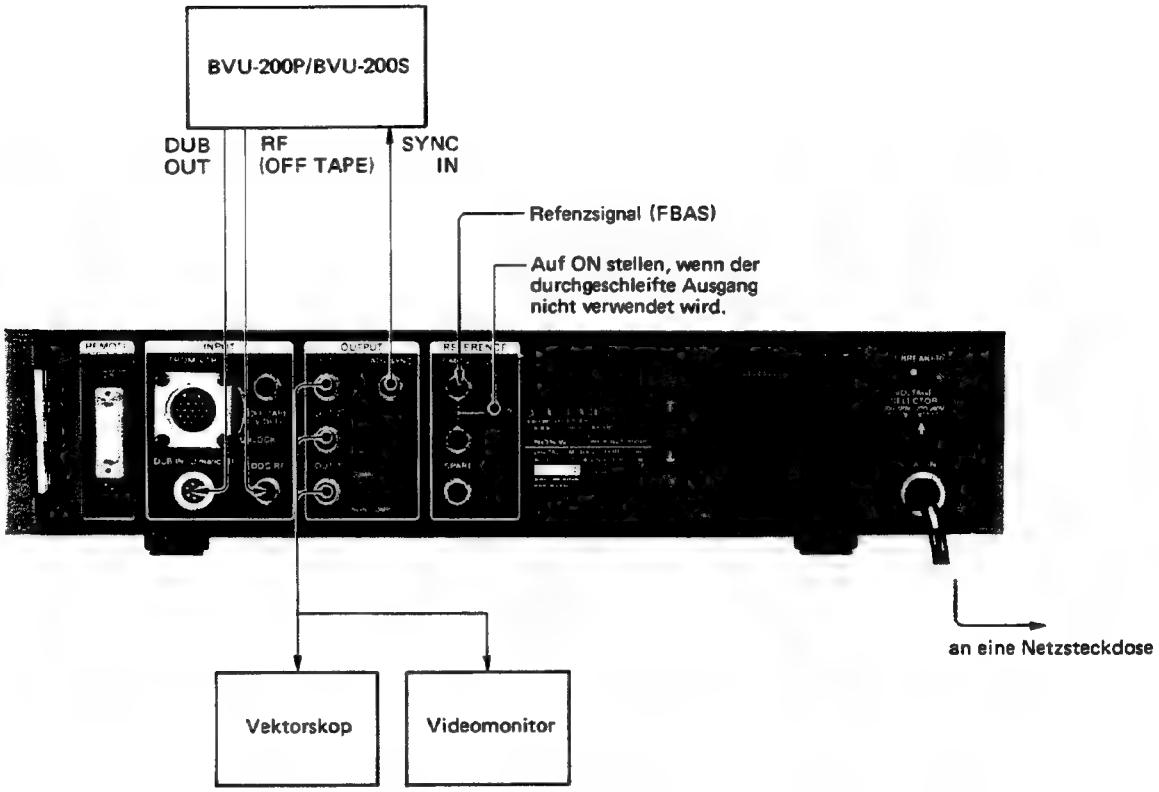
1-3. ANSCHLUSS UND BETRIEB

1-3-1. Anschluß eines BVU-800P/BVU-800S oder BVU-820P/BVU-820S

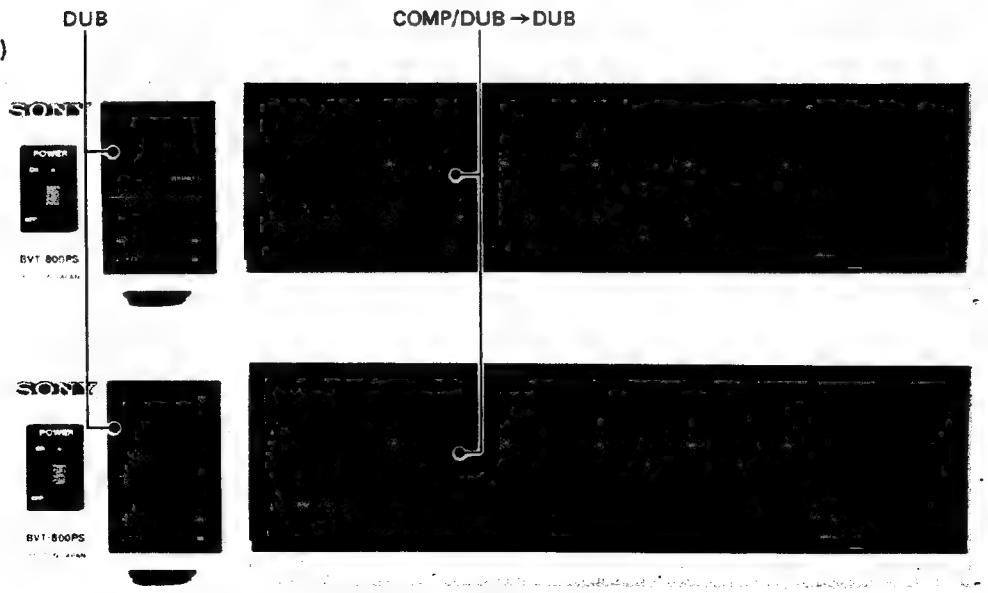




1-3-2. Anschluß eines BVU-200P/BVU-200S

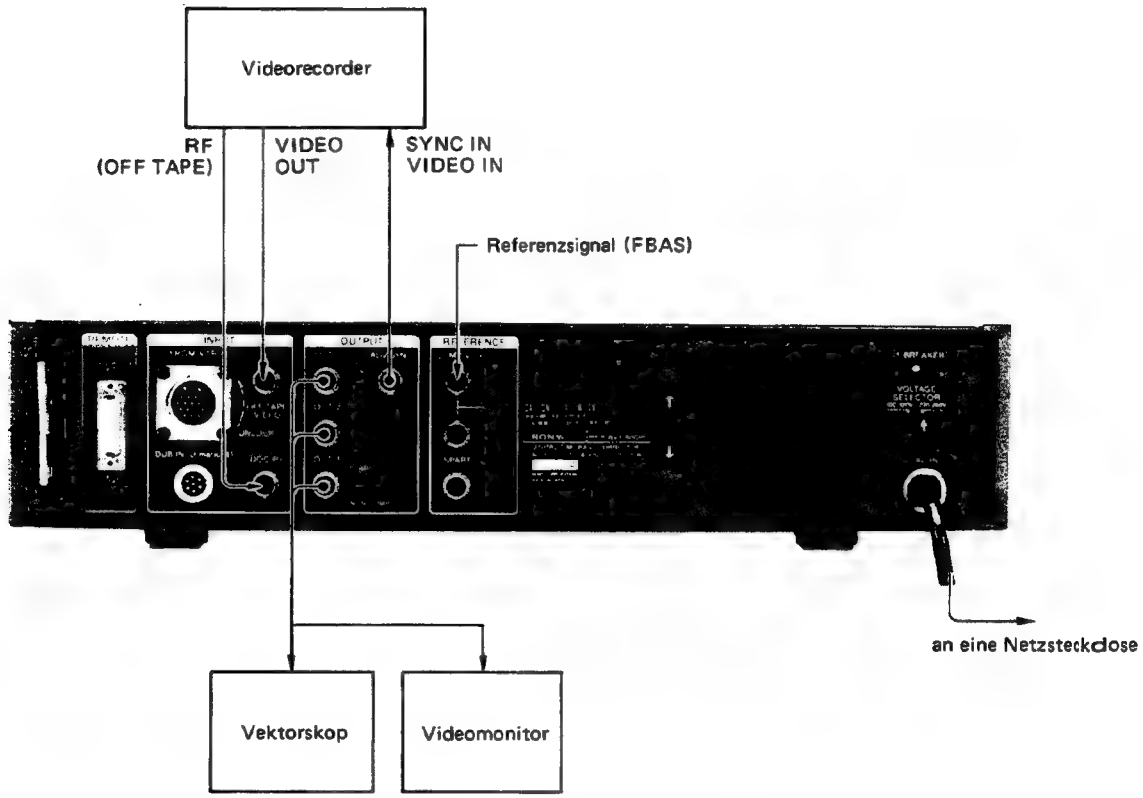


BVT-800PS(P)

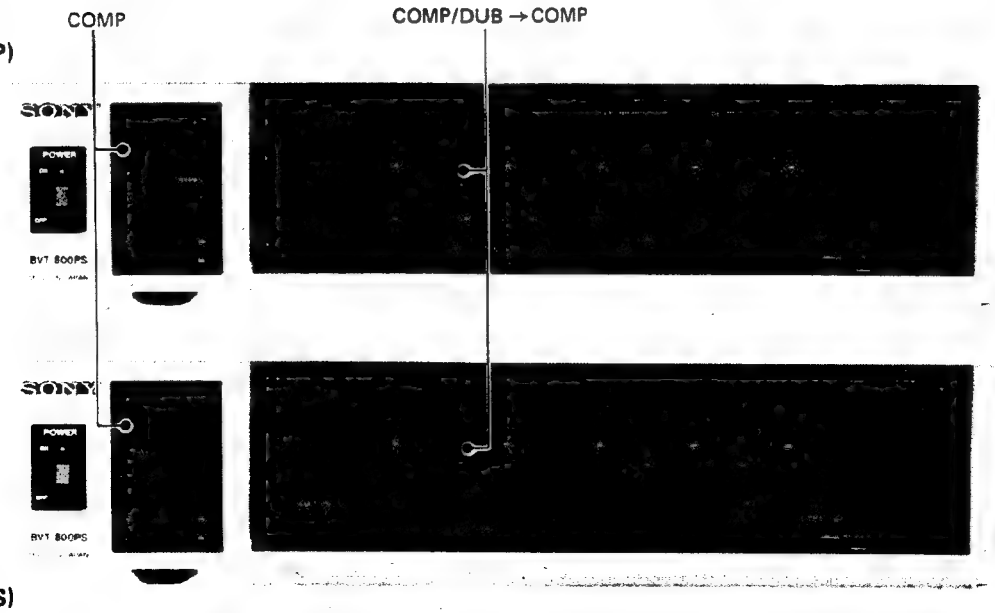


BVT-800PS(S)

1-3-3. Anschluß eines Videorecorders, der nicht zur BVU-Serie gehört und kein Capstan-Servosystem besitzt



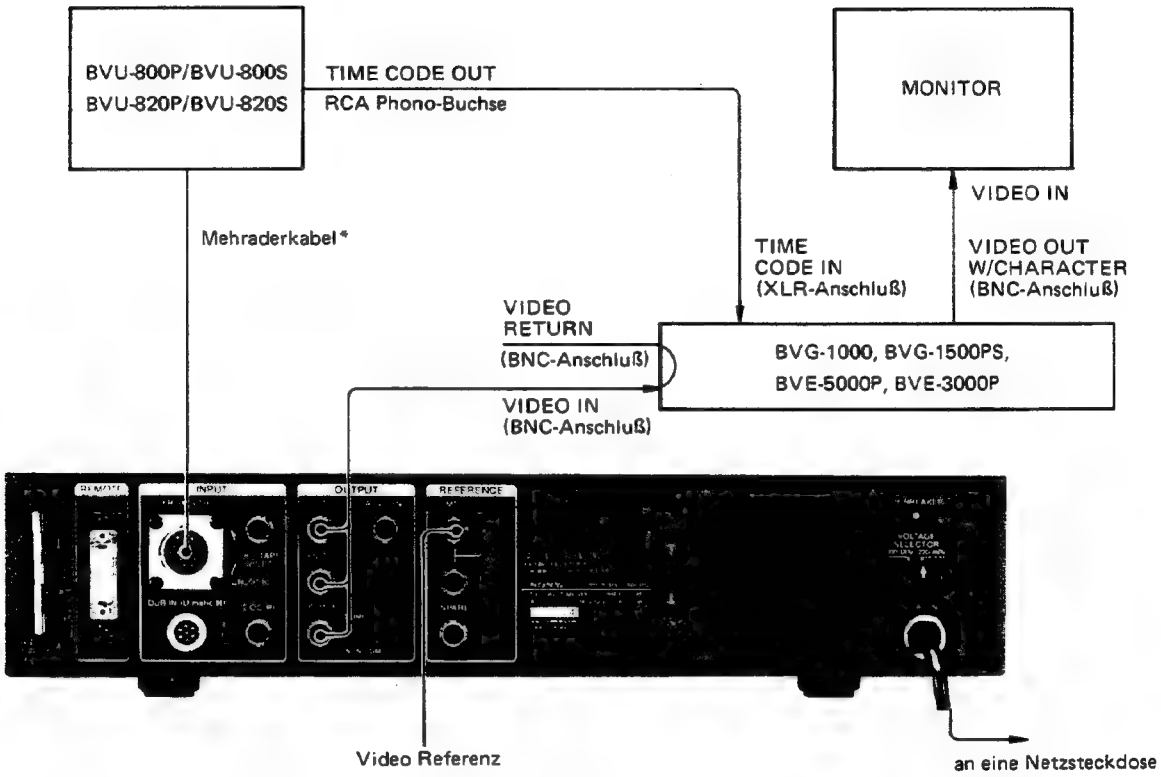
BVT-800PS(P)



BVT-800PS(S)

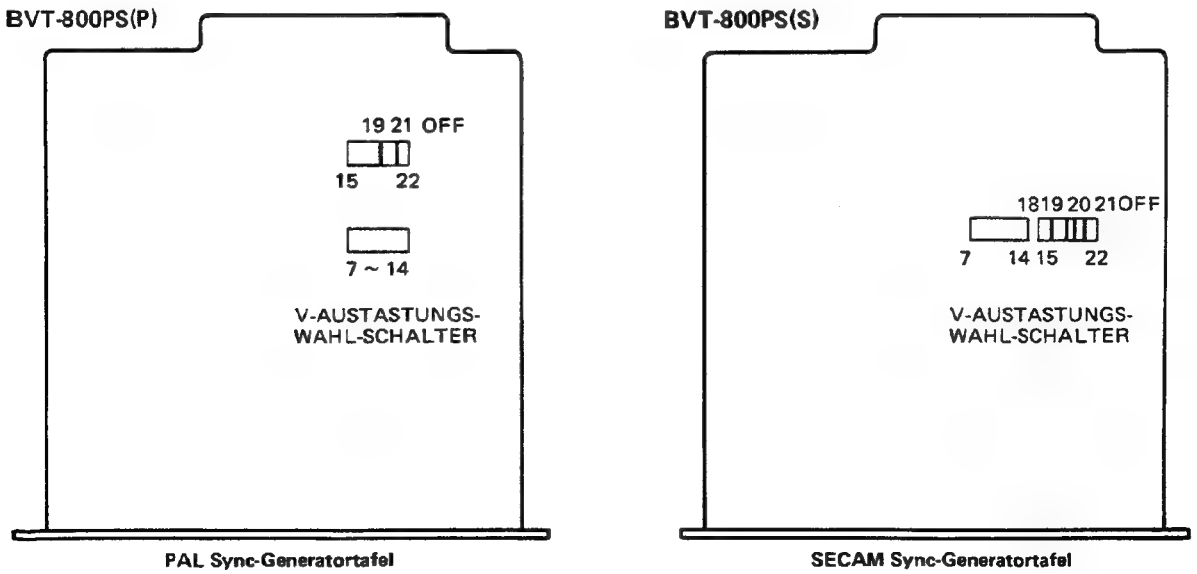
1-3-4. Anschluss für die Benützung des VITC (Vertical Interval Time Code)

Schliessen Sie einen BVU-800P, BVU-800S, BVU-820P oder BVU-820S und einen BVG-1500PS, BVG-1000, BVE-5000P oder BVE-3000 an.



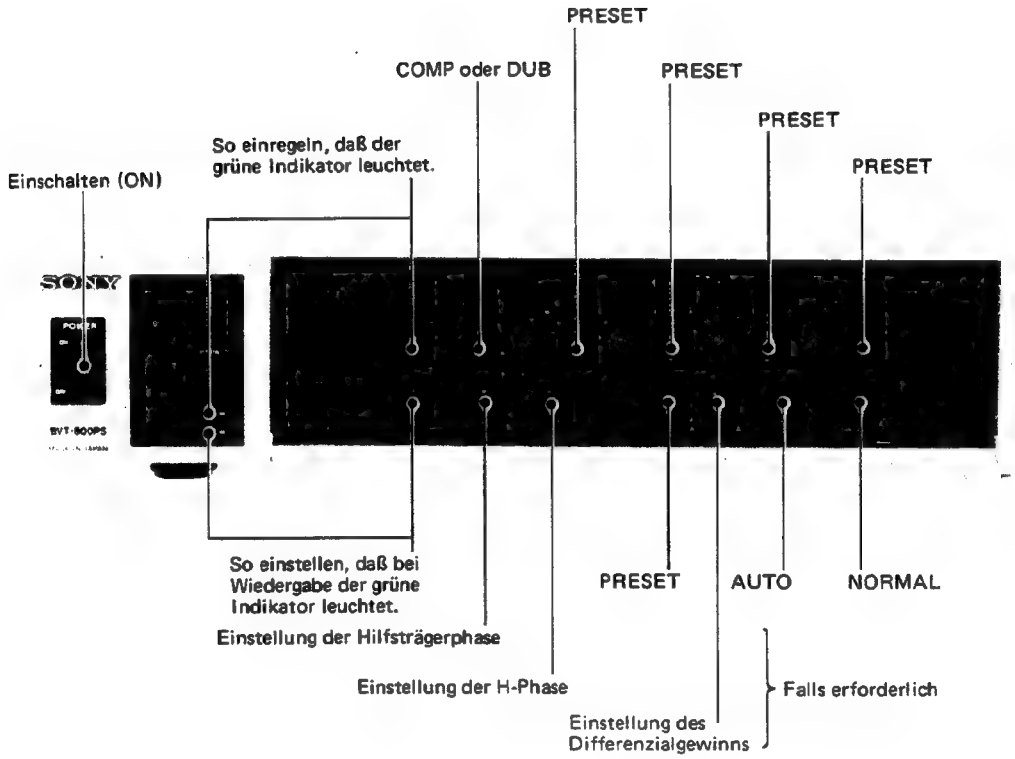
* Wenn ein Videorecorder der Serie BVU-200 gebraucht wird, beziehen Sie sich auf 1-3-2.

Bei Gebrauch des VITC, sich vergewissern dass die V-Austastungsschalter für die Zeilen 19 und 21 beim PAL-Modell oder für die Zeilen 18, 19, 20 und 21 beim SECAM-Modell ausgeschaltet sind.

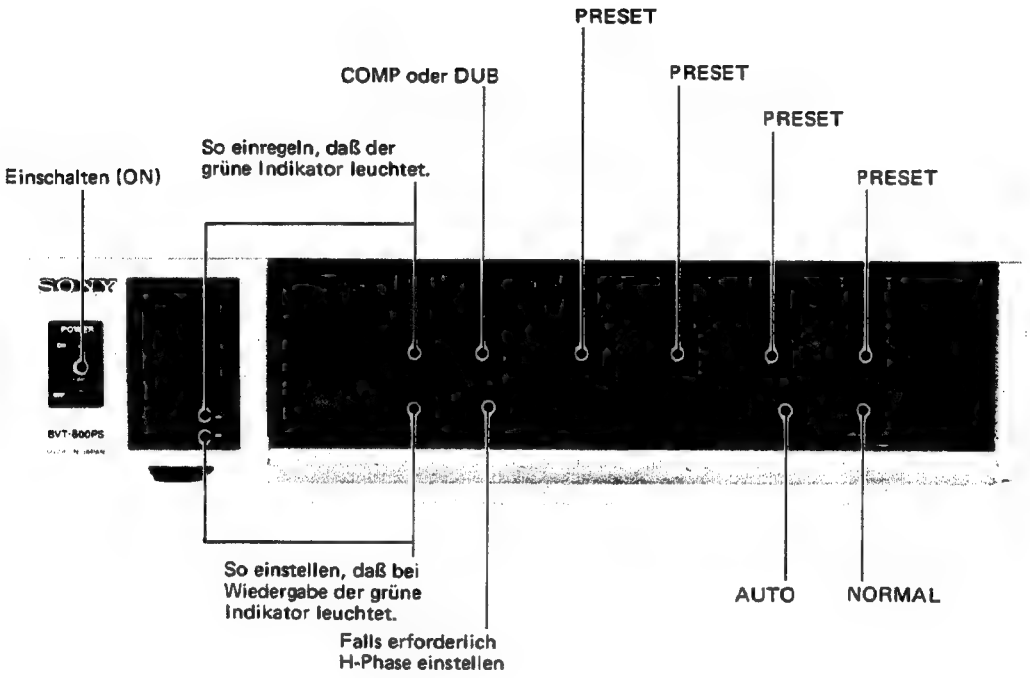


1-3-5. Normaleinstellung

BVT-800PS(P), PAL-Modell



BVT-800PS(S), SECAM-Modell



1-4. TECHNISCHE DATEN

Allgemeine Daten

Spannungsversorgung	
	100 – 120 V (90 – 132 V)/220 – 240 V (198 – 264 V) Wechselspannung einstellbar, 50/60 Hz (48 – 62 Hz)
Leistungsaufnahme	100 W
Betriebstemperatur	0°C bis 40°C
Anfbewahrungstemperatur	
	–10°C bis +60°C
Feuchtigkeit	10% – 90% (nicht kondensiert)
Abmessungen	424 x 88 x 515 mm (B/H/T)
Gewicht	13 kg

Mitgeliefertes Zubehör

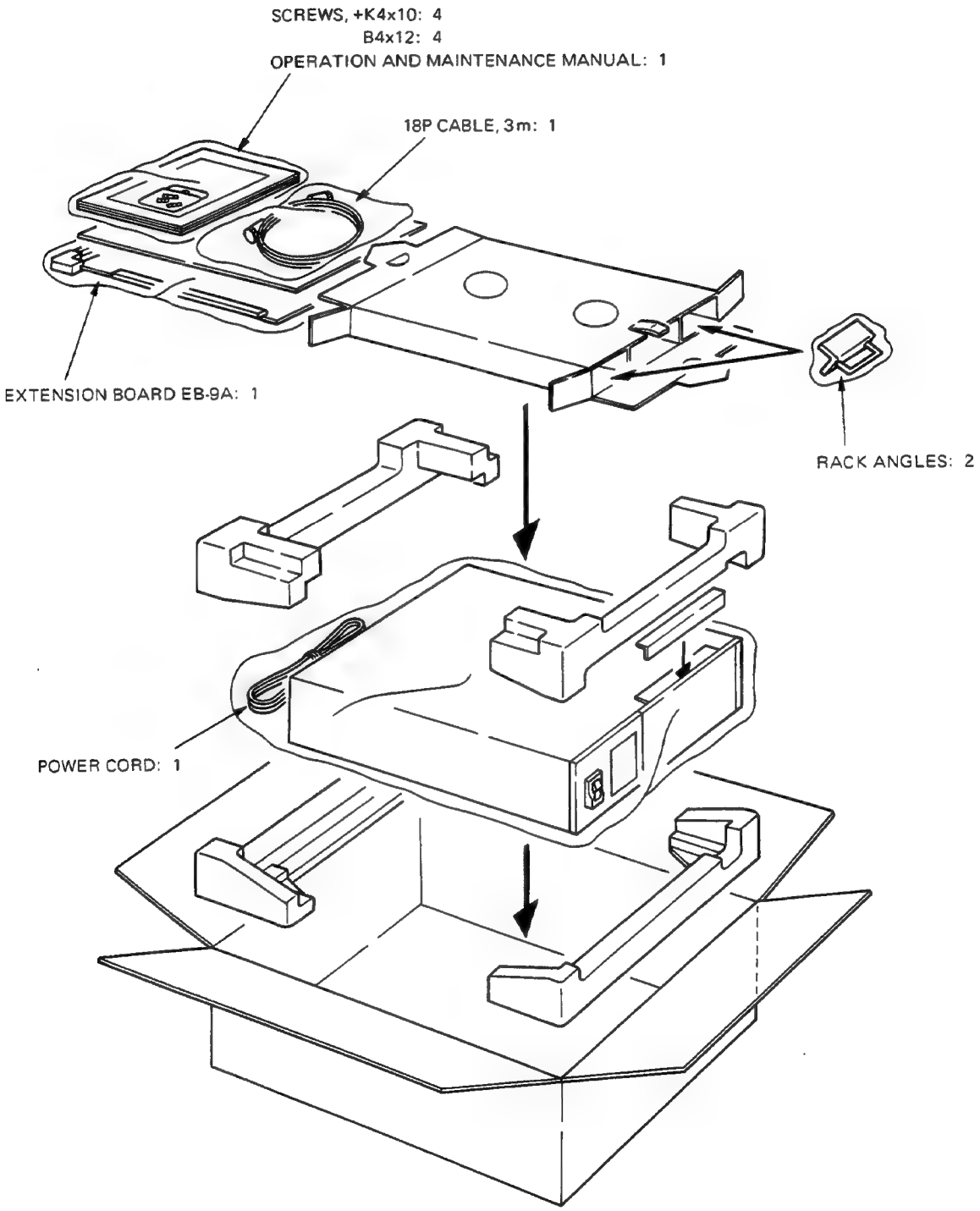
Verlängerungsleiterplatte EB-9 x1
Gestellmontagesatz x1
(Griff x2, Schraube B4x12 x4, Schraube K4x10 x4)
Mehradriges Kabel x1
Bedienungs- und Wartungsanleitung x1

Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.

		BVT-800PS(P) PAL	BVT-800PS(S) SECAM
Video	Bandbreite COMP IN	Y: 2,5 MHz ±0,4 dB, 3,25 MHz −3 dB C: ±0,7 MHz −3 dB	Y: 2,5 MHz ±0,4 dB, 3,25 MHz −3 dB C: ±0,5 MHz −3 dB
	DUB IN	Y: 3,5 MHz ±0,4 dB, 4,3 MHz −3 dB C: ±0,75 MHz −3 dB	Y: 3,5 MHz ±0,4 dB, 4,3 MHz −3 dB C: ±0,5 MHz −3 dB
	Signal-Rauschabstand	55 dB	55 dB
	DG	2%	—
	DP	2°	—
	K-Factor (2T-Impuls) COMP IN	4%	4%
	DUB IN	2%	2%
	Chroma/Luminanz-Verzögerung	10 nsec	10 nsec
	Korrekturbereich	29 H(s-s)	29 H(s-s)
	Restfehler	Farbe: ±2,5 nsec Schwarzweiß: ±15 nsec	±15 nsec
Eingangssignal	Band-Videosignal	FBAS 1,0 V(s-s) ±3 dB (einstellbar), 75 Ohm	
	DUB IN	Luminanz: 0,5 V(s-s) ±3 dB (einstellbar), 75 Ohm Chroma: 0,5 V(s-s), 75 Ohm	
	DOC-Referenzsignal	0,5 V ±6 dB, 75 Ohm	
	Referenz-FBAS-Signal	1,0 V(s-s) ±3 dB, 75 Ohm (ein-/ausschaltbar)	
Ausgangssignal	Voreilende Synchronisation	2,2 V ±0,3 V, 75 Ohm	
	Videoausgang	1: 1,0 V(s-s) 2: 1,0 V(s-s) 3: 1,0 V(s-s)/0,7 V(s-s) (FBA-Signal)	
Regler	Videopegel	±3 dB	±3 dB (nur Luminanz)
	Chromapegel	±3 dB	±3 dB
	Schwarzpegel	0 – 0,11 V	0 – 0,11 V
	Burst/Chroma-Phase	±15°	—
	DG-Kompensation	±20%	—
	System-Sync-Phase	−1 bis +3 µsec	−1 bis +3 µsec
	System-HT-Phase	größer als 180°	—
	Y/C-Verzögerung	±150 nsec	±150 nsec

SECTION 2
INSTALLATION

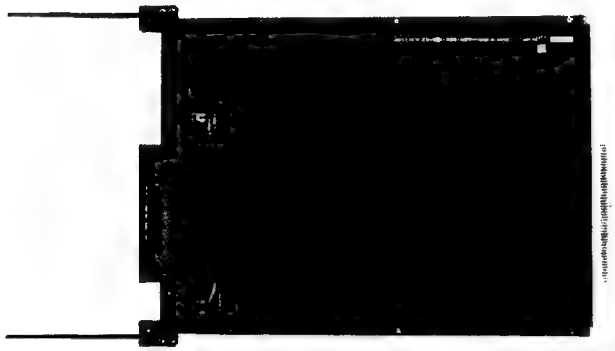
2-1. UNPACKING AND REPACKING



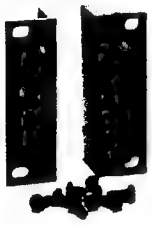
2-2. ACCESSORIES

2-2-1. Accessories Supplied

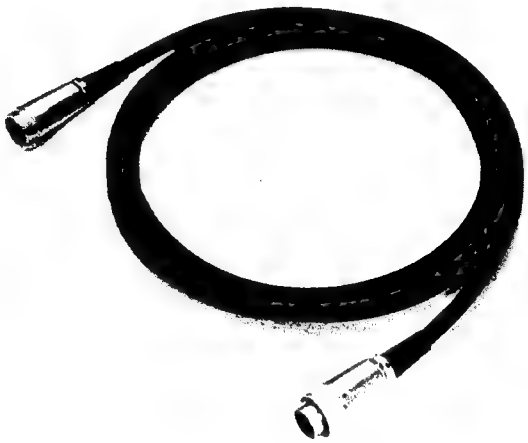
Extension Board EB-9A: 1
Used for checking and repairing the plug-in boards.



Rack Angles: 2
Screws, B4x12: 4
+K4x10: 4
One set of rack angles and screws is necessary for rack mounting.



18P Cable: 1
3 meter long 18P multi-core cable for connection of BVT-800PS and VTR.



Operation and Maintenance Manual: 1

2-2-2. Optional Accessories

SONY PAL Sync Generator Board BKT-801; 1 pc
This board is same as SG-67 board that is used in the BVT-800PS for PAL. When altering the BVT-800PS for SECAM to PAL, replace SG-68 board with BKT-801 i.e. SG-67 board.
SONY SECAM Sync Generator Board BKT-802; 1 pc
This board is same as SG-68 board that is used in the BVT-800PS for SECAM. When altering the BVT-800PS for PAL to SECAM, replace SG-67 board with BKT-802 i.e. SG-68 board.
SONY Remote Control Unit BK-2007; 1 pc

Sliding Rails for Rack Mounting: 1 pair
ACCURIDE Model 203
Brackets for Rack Mounting: 4
ACCURIDE #5507-2
Rails and brackets for mounting BVT-800PS to the rack.
The above parts should be ordered directly from the manufacturer:

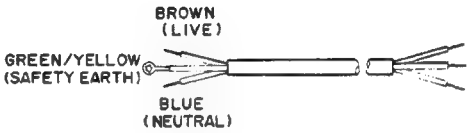
STANDARD PRECISION INC.
12311 S, SHOEMAKER AVENUE SANTA FE SPRINGS, CALIFORNIA 90670
TEL (213) 944-6236

2-3. MATCHING CONNECTOR AND CABLE

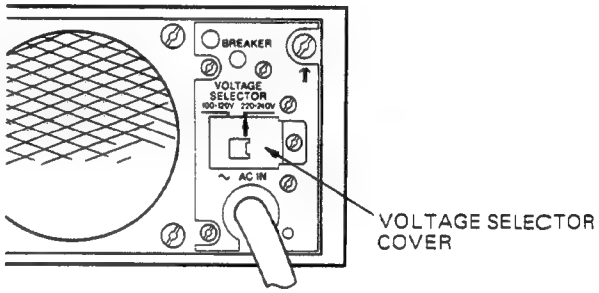
VTR Connector
Use 18P multi-core cable supplied (length 3 m) and no other cables.
DUB IN Connector
Use 7-pin VDC-5 cable (length 5 m) or VDC-3 (length 2 m). One cable is supplied with Sony BVU-200P/S and BVU-800/820P/S series VTRs.
REMOTE Connector
Use the 15-pin ribbon cable supplied with SONY Remote Control Unit BK-2007.
Other connectors are all BNC type.

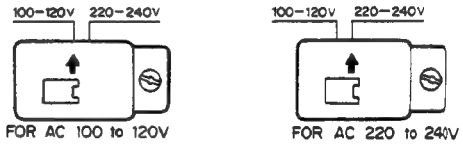
2-4. POWER REQUIREMENTS

Power Line Voltage	AC100-120/220-240 V switchable
100-120 V mode	AC90 to 132 V
220-240 V mode	AC198 to 264 V
Power Line Frequency	48 to 62 Hz
Power Consumption	100 W
Power Cable	Approx. 2.5 m in length An AC plug should be locally prepared and mounted.



When changing the line voltage, remove the cover, set the voltage selector in accordance with the power line voltage to be used and place the cover.





2-5. INSTALLATION CONDITIONS

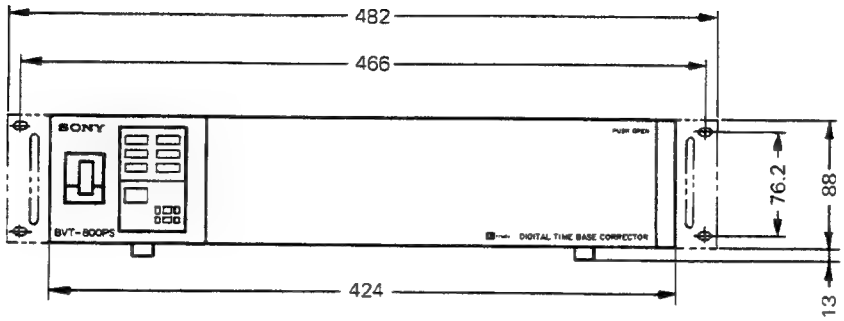
Operating Condition	Temperature 0 to +40°C
	Humidity 10 to 90% (noncondensing)
Storage Condition	Temperature −10 to +60°C
	Humidity 10 to 90%

Do not install in the following types of location.

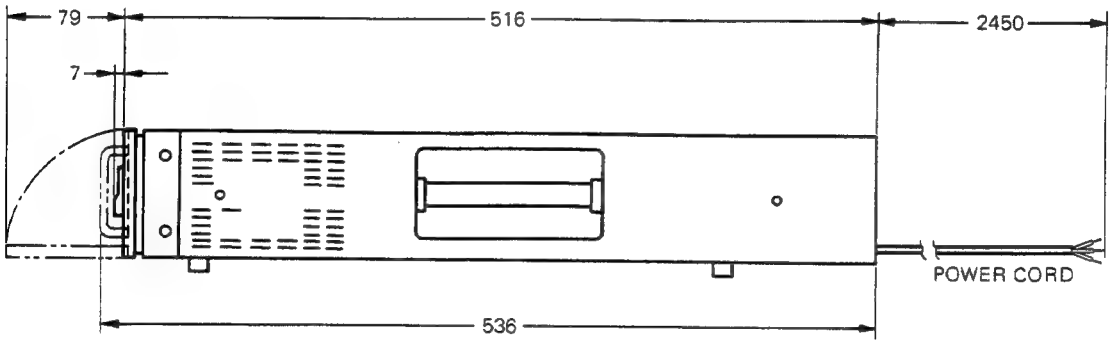
1. Dusty places
2. Places subjected to vibration
3. Places exposed to strong magnetic or electric fields
4. Places exposed directly to sun light or powerful light

2-6. INSTALLATION SPACE

Front

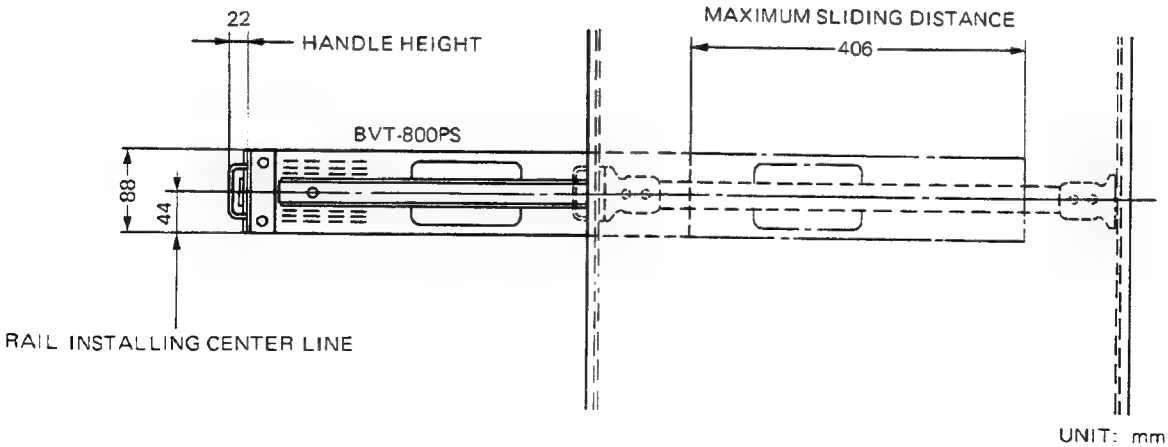


Right Side



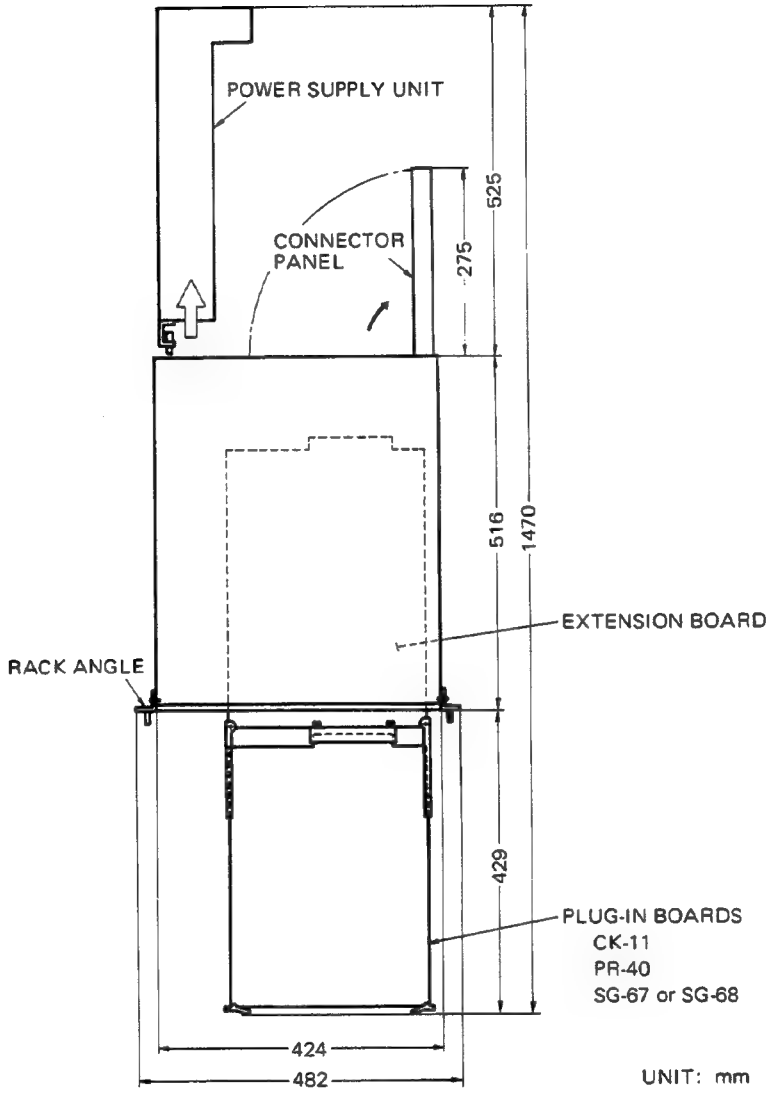
UNIT: mm

Rack Mounting



UNIT: mm

Working Space



2-7. RACK MOUNTING

Parts to be prepared

Slide Rails for Rack Mounting: 1 pair
(consisting of two inner members and two outer members)
ACCURIDE Model 203, length 22" (559 mm)

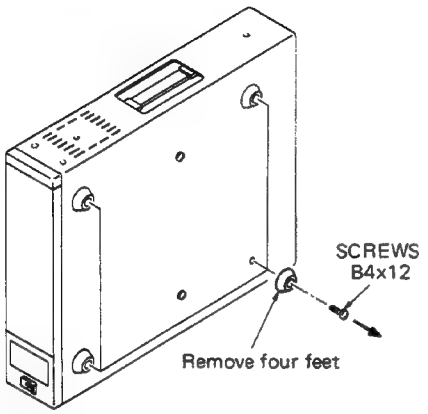
Brackets for Rack Mounting: 4
ACCURIDE #5507-2

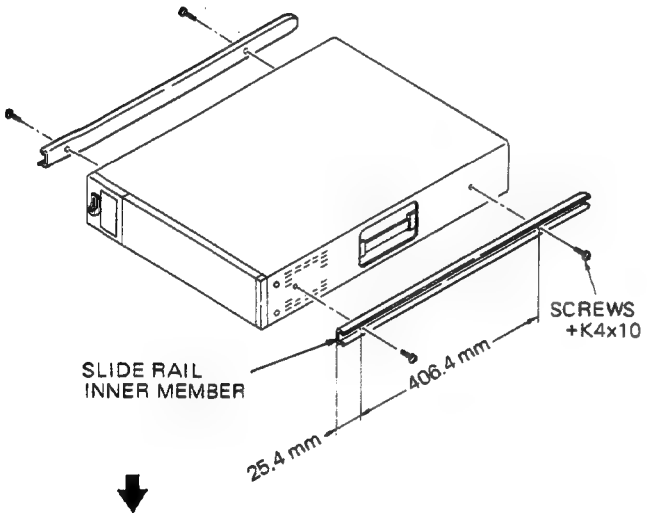
Slide Rail/Inner Member Connecting Screws: 4
Accessory supplied +K4x10

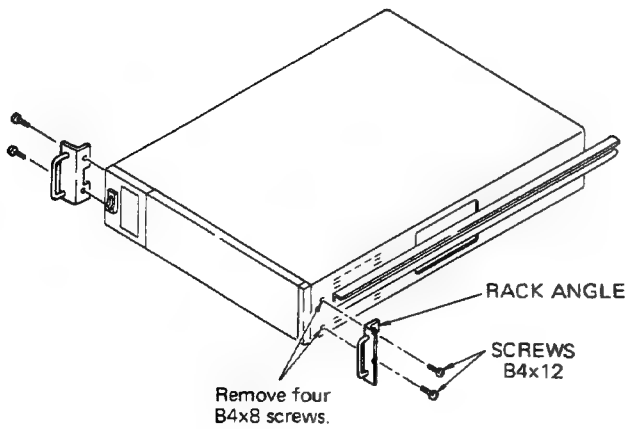
Rack Angles: 2
Accessory supplied

Rack Angle Mounting Screws: 4
Accessory supplied B4x12

Rack Mounting Procedure

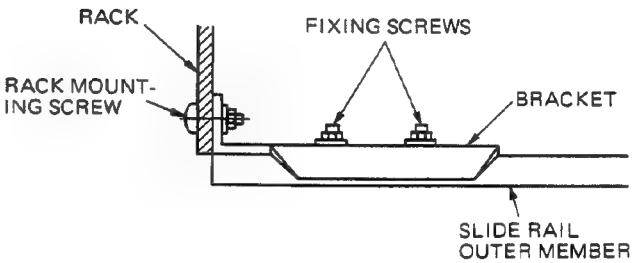




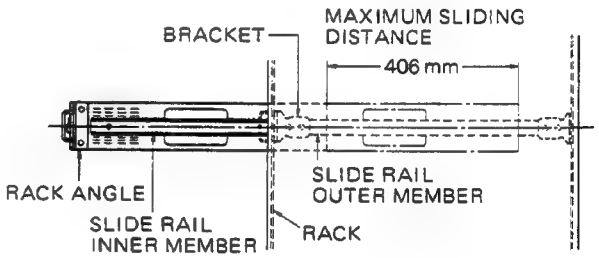


Connect the bracket to the outer members. Mount this same bracket to the rack and fasten the bracket fixing screws.

Note:
Use the fixing screws and rack mounting screws recommended by the slide rail manufacturer.



Mount the equipment to the rack.



2-8. ALTERING PAL/SECAM SYSTEM

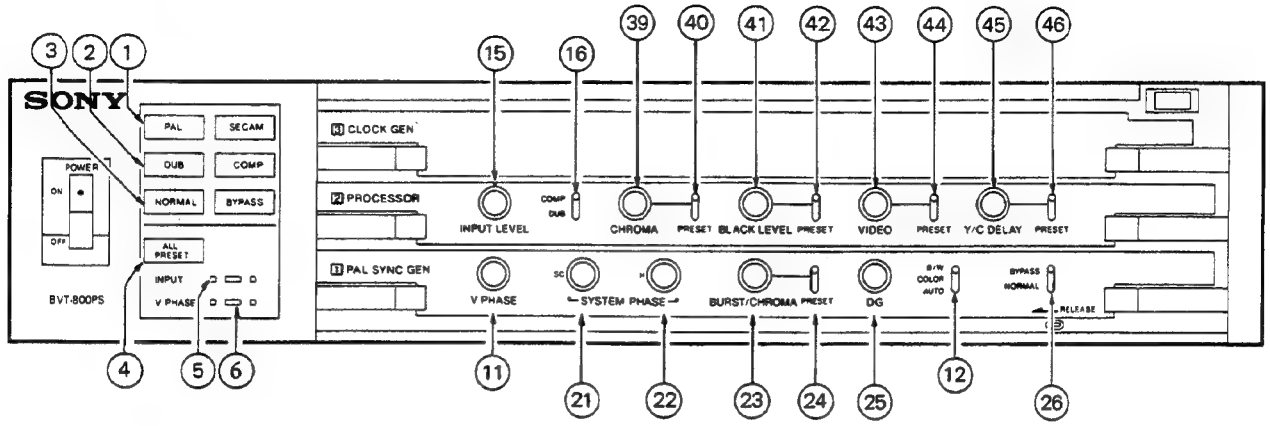
There are two types of BVT-800PS i.e. for PAL and for SECAM. The PAL BVT-800PS is equipped with SG-67 PAL sync generator board and the SECAM BVT-800PS is equipped with SG-68 SECAM sync generator board.
When altering the BVT-800PS to PAL or SECAM, replace the sync generator board. The replacement sync generator board is available in the following model name.

BKT-801: SONY PAL Sync Generator Board
(SG-67 board)

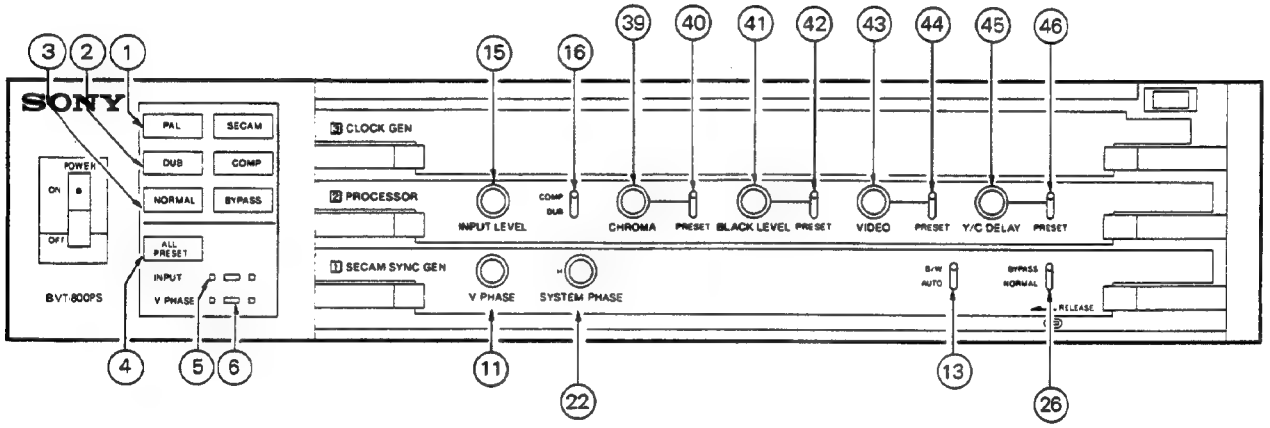
BKT-802: SONY SECAM Sync Generator Board
(SG-68 board)

2-9. SWITCH AND CONTROL SETTING

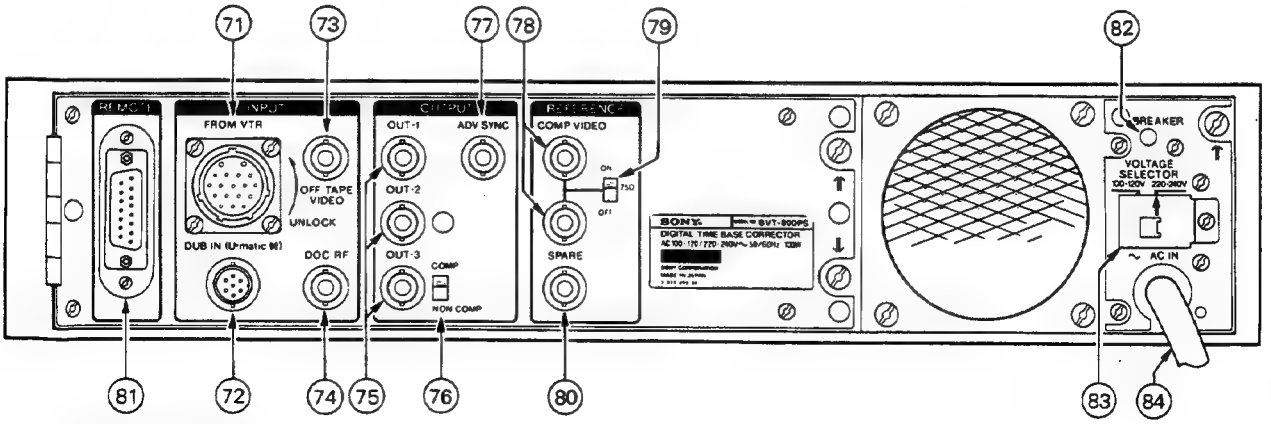
FRONT PANEL: for PAL model



FRONT PANEL: for SECAM model



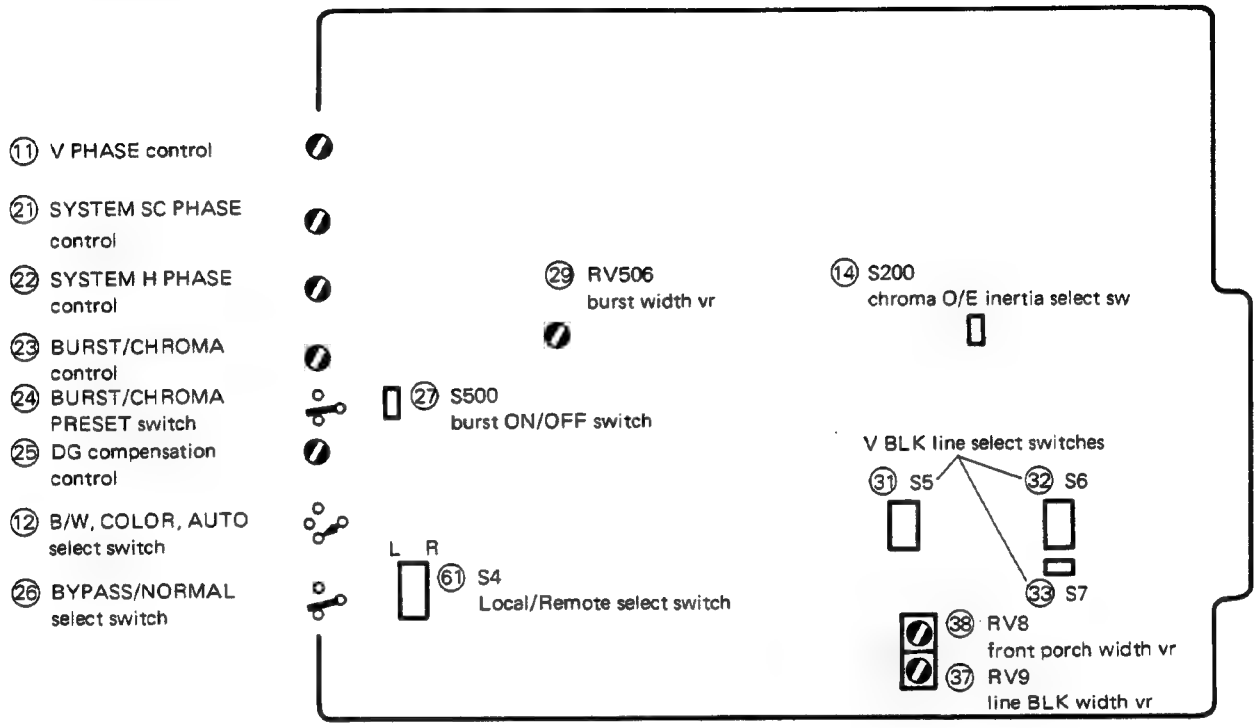
REAR PANEL



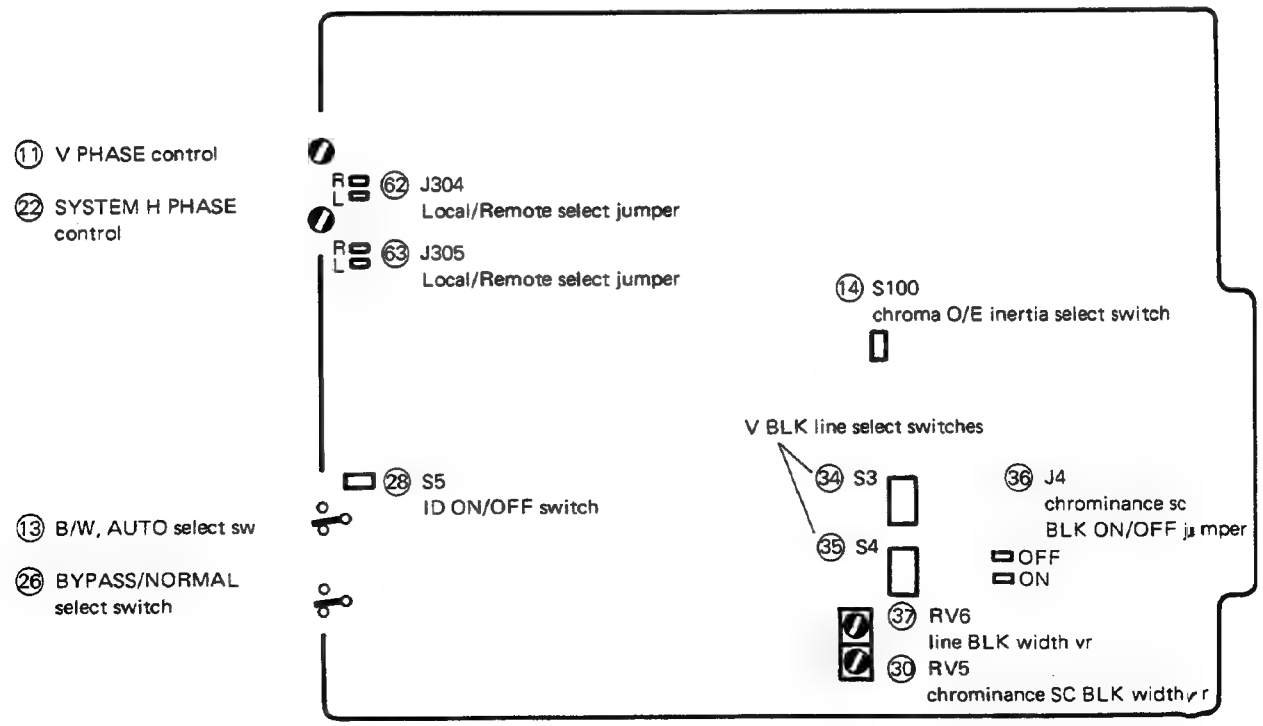
Note: The functions of each switch/control are described in the following sections.

- (1) to (6) : section 2-9-1. Indicator Panel
- (11) to (17) : section 2-9-2. For Video Input Signal
- (21) to (49) : section 2-9-3. For Video Output Signal
- (61) to (64) : section 2-9-4. For Remote Control
- (71) to (84) : section 2-9-5. Connector Panel

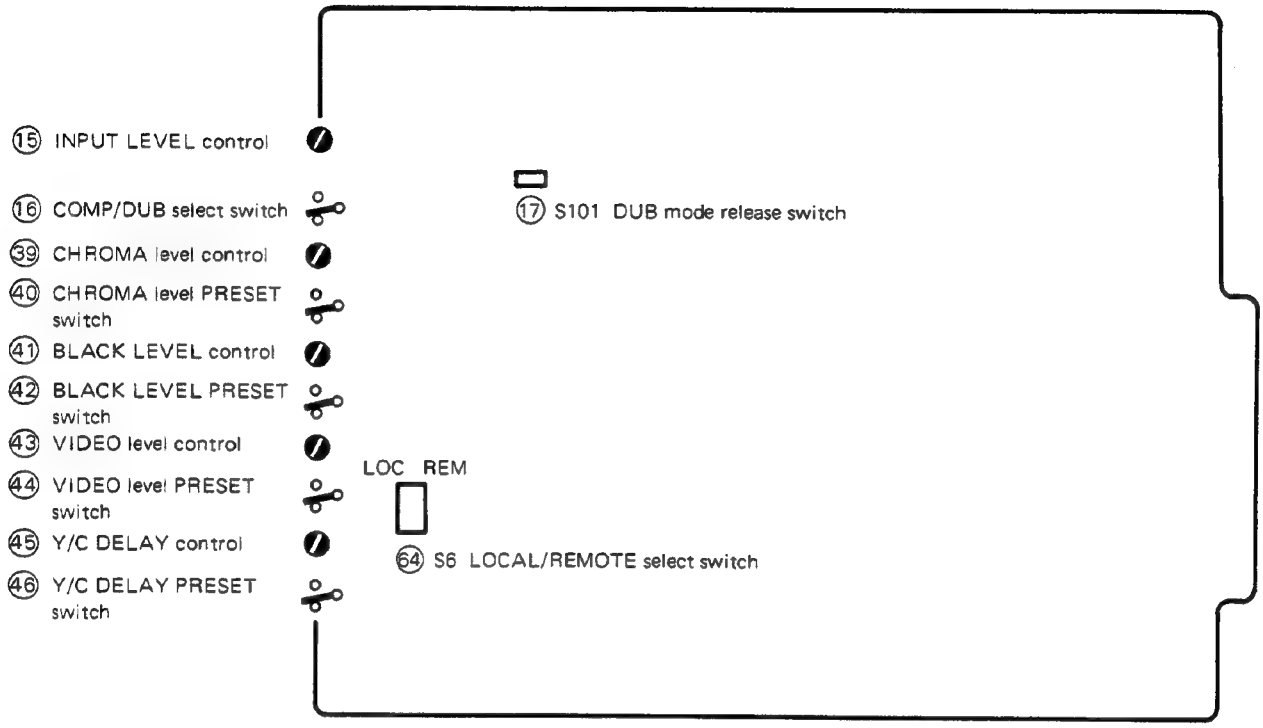
1 PAL SYNC GEN board (SG-67 board: for PAL)



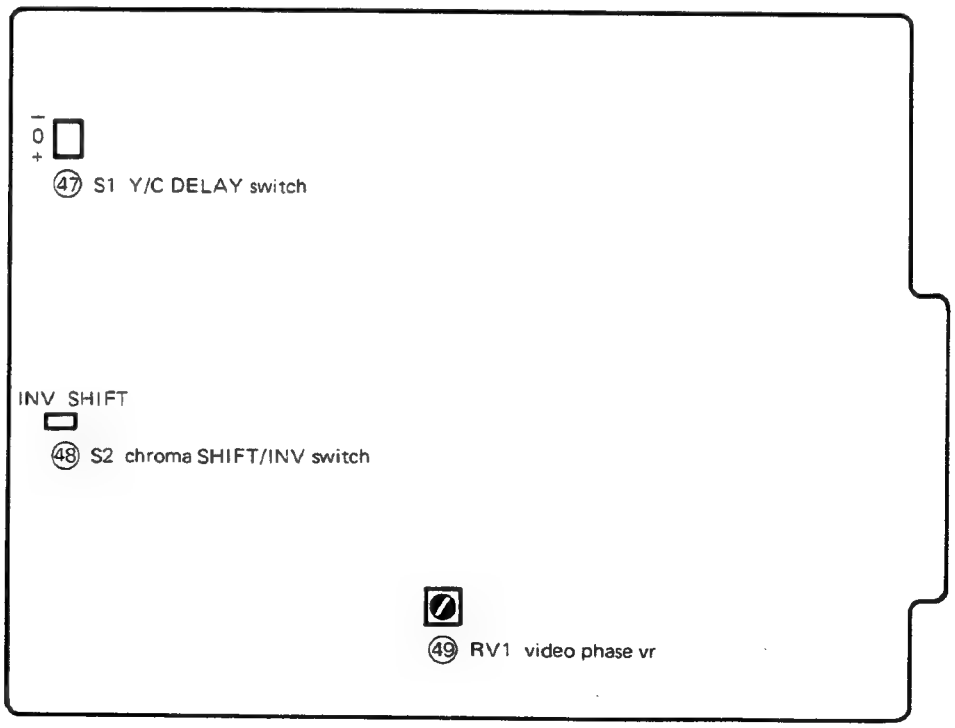
1 SECAM SYNC GEN board (SG-68 board: for SECAM)



2 PROCESSOR board (PR-40 board)



3 CLOCK GEN board (CK-11 board)



2-9-1. Indicator Panel

① **PAL/SECAM indicators**
PAL or SECAM indicator lights according to the sync generator board SG-67 (for PAL)/SG-68 (for SECAM).

② **DUB/COMP indicators**
DUB or COMP indicator lights according to the TBC operating mode DUB/COMP. See ⑯ COMP/DUB select switch.

③ **NORMAL/BYPASS indicators**
NORMAL or BYPASS indicator lights according to the position of ㉖ BYPASS/NORMAL select switch.

④ **ALL PRESET indicator**
This indicator lights when the following switches on the BVT-800PS are all set to PRESET position.
㉔ BURST CHROMA PRESET switch (for PAL)
㊵ CHROMA level PRESET switch
㊷ BLACK LEVEL PRESET switch
㊹ VIDEO level PRESET switch
㊻ Y/C DELAY PRESET switch

Note: When BVT-800PS is remote-controlled, this indicator has no relation to the manual/preset mode of the remote controller.

⑤ **INPUT indicators**
These indicators show the level of the off tape video input signal. See ⑮ INPUT LEVEL control.

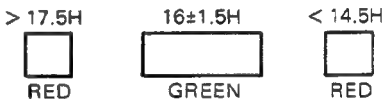
⑥ **V PHASE indicators**
These indicators show whether the off tape video input signal is in advance of the reference signal correctly or not. See ⑪ V PHASE control.

2-9-2. For Video Input Signal

[1] PAL SYNC GEN board (SG-67 board: for PAL)

[1] SECAM SYNC GEN board (SG-68 board: for SECAM)

⑪ **V PHASE control**
When the VTR is in the normal playback mode, this adjusts the off tape video signal so that it is in advance of the reference signal by 16H.
⑥ V PHASE indicators show whether the off tape video signal is in advance by 16H or not. The green lamp indicates the correct phase.



Note: When the VTR is in E-E mode, the off tape video signal and the reference signal become in phase; the red lamp indicating 'less than 14.5H' lights.

⑫ **B/W, COLOR, AUTO select switch (for PAL)**
The TBC operates in the color or black & white mode depending on the combination of the off tape video signal contents and this switch. Normally set to AUTO.

B/W: Regardless of whether the input signal is color or B/W, the TBC takes it as a B/W signal.
However, if this switch is set at B/W when the input video signal is color and the TBC is in COMP mode (i.e. not DUB mode: Refer to ⑯ COMP/DUB select switch.) the color of TBC output becomes free.
If this switch is set at B/W when the TBC is in DUB mode, the TBC output has no chrominance signal regardless of whether the input signal is color or B/W.
See the note.

COLOR: Regardless of whether the input signal is color or B/W, the TBC takes it as a color signal.

AUTO: The TBC decides automatically color or B/W depending on the input signal burst level. The signal is judged to be B/W if its burst level is below the reference level (300 mV) by 12+/−3 dB.

(To be continued)

(⑫ B/W AUTO, COLOR select switch: for PAL)

Note: The TBC out burst can be controlled ON/OFF by ㉗ S500 burst ON/OFF switch on SG-67 board. It is set to OFF when shipped from the factory.
When the tape speed of the VTR is +/−x5 or more, BVT-800PS takes the video signal as a B/W signal regardless of other conditions. ㉗ S500 on the SG-67 board is active in this case also.

tape speed of VTR	video input	⑫ B/W COLOR AUTO switch	DUB COMP mode	㉗ burst ON/OFF switch	TBC output
<±x5	B/W (Y)	B/W or AUTO	X	OFF	B/W without burst (Y)
	color (Y+C+B)	B/W	DUB	OFF	
	B/W (Y)	X	X	ON	B/W with burst (Y+B)
	B/W (Y)	color	X	OFF	
	color (Y+C+B)	B/W	DUB	ON	
	color (Y+C+B)	COLOR or AUTO	X	X	color with burst (Y+C+B)
	color (Y+C+B)	B/W	COMP	OFF	B/W without burst (*) (Y+C)
	color (Y+C+B)	B/W	COMP	ON	color with burst (*) (Y+C+B)
≧±x5	X	X	X	OFF	B/W without burst (Y)
	X	X	X	ON	B/W with burst (Y+B)

Y: luminance signal
C: chrominance signal
B: burst signal
X: irrelevant

(*) The phase of the chrominance signal becomes free.
Not applicable.

⑬ B/W, AUTO select switch (for SECAM)

The TBC operates in the color or black & white mode depending on the combination of the off tape video signal contents and this switch. Normally set to AUTO.

B/W: Regardless of whether the input signal is color or B/W, the TBC takes it as a B/W signal.
However, if this switch is set at B/W when the input video signal is color and the TBC is in COMP mode (i.e. not DUB mode: Refer to ⑯ COMP/DUB select switch.), the color of TBC output becomes free.
If this switch is set at B/W when the TBC is in DUB mode, the TBC output has no chrominance signal regardless of whether the input signal is color or B/W. See the note.

AUTO: The TBC decides automatically color or B/W depending on the input signal line burst level.

Note: The TBC out ID signal can be controlled ON/OFF by ㉘ S5 ID ON/OFF switch on SG-68 board. It is set to ON when shipped from the factory.
The blanking of TBC out chrominance SC signal on lines 7 (320) to 22 (335) can be controlled ON/OFF by ㊱ J4 chrominance SC blanking ON/OFF jumper. It is set to OFF when shipped from the factory.
When the tape speed of the VTR is +/−x5 or more, BVT-800PS takes the video signal as a B/W signal regardless of other conditions. ㉘ S5 ID ON/OFF switch is inactive in this case.

tape speed of VTR	video input	⑬ B/W AUTO switch	DUB COMP mode	㉘ ID ON/OFF switch	㊱ chrominance SC BLK ON/OFF jumper	TBC output
<±x5	B/W (Y)	X	X	X	X	B/W (Y)
	color (Y+C+ID)	B/W	DUB	X	X	
	color (Y+C+ID)	B/W	COMP	X	X	color without ID (*1) (Y+C)
	color (Y+C+ID)	AUTO	X	OFF	ON	color without ID (Y+C)
	color (Y+C+ID)	AUTO	X	OFF	OFF	color with ID (*2) (Y+C+ID)
	color (Y+C+ID)	AUTO	X	ON	X	color with ID (*3) (Y+C+ID)
≧±x5	X	X	X	X	X	B/W (Y)

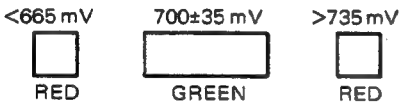
Y: luminance signal
C: chrominance signal
ID: ID signal
X: irrelevant

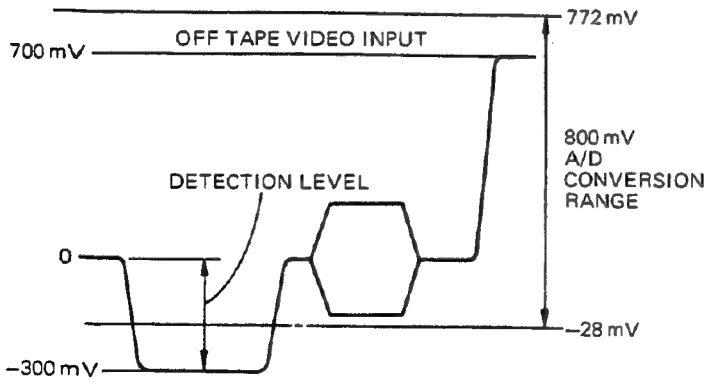
(*1) The color becomes free. Not applicable.
(*2) The TBC output ID signal is not replaced in the TBC.
The ID signal of the input ID signal is utilized.
(*3) The TBC output ID signal is replaced with the new one that is generated in the TBC.

⑭ **S200: chroma O/E inertia select switch (for PAL)**
⑭ **S100: chroma O/E inertia select switch (for SECAM)**
BVT-800PS judges the video input chrominance signal odd/even (135°/225° for PAL, D_R'/D_B' for SECAM) by detecting the burst. When missing the burst signal due to dropouts and bad head-to-tape touch, BVT-800PS keeps the last O/E data. If the kept O/E data is different from the new O/E data that is detected from the burst signal which appears again, BVT-800PS utilizes the new data after 16 lines when S200/100 is OFF or after 32 lines when S200/100 is ON.
When the VTR is in BIDIREX mode (i.e. playback by R/P head excepting FWDx1 speed), the TBC operates in "32 lines" regardless of S200/100 ON/OFF.
S200/100 is set at OFF when shipped from the factory.

2 PROCESSOR board (PR-40 board)

⑮ **INPUT LEVEL control**
Controls the level of the video input signal. The adjusting range is +/−3 dB.
The adjusted level is shown on ⑤ INPUT indicators. The green lamp lights when the level is correct. The indicators show the level of the sync signal portion of the off tape video input as the level of the off tape video signal. In other words, they indicate a sync signal level 300 mV as an off tape video input level 700 mV (without sync).





⑯ **COMP/DUB select switch**
⑰ **S101: DUB mode release switch**
In the DUB mode, the TBC processes signals without Y/C-separation, while in the COMP mode, signals are Y/C-separated in the TBC. The DUB mode produces a better picture than the COMP mode.

When the VTR with 18-pin multiple cable for example BVU-800/820P/S is connected to BVT-800PS, the DUB or COMP mode is selected by the mode of the VTR and two switches ⑯ and ⑰ as the following table. The DUB mode release switch is set to ON when shipped from the factory.

mode of VTR	⑯ COMP/DUB switch	⑰ DUB mode release sw	mode of BVT-800PS
SECAM or PAL normal play	DUB	ON	DUB
	COMP	ON	DUB
	DUB	OFF	DUB
	COMP	OFF	COMP
PAL DT play or PAL simultaneous play in recording	irrelevant	irrelevant	COMP

When Sony BVU-200P or 200S is connected with 7-pin VDC cable, the DUB mode should be selected by the COMP/DUB select switch.
When the VTR is except the above-mentioned type, even though it is equipped with a DUB OUT connector, the off tape video signal must be inputted to BVT-800PS BNC connector and the COMP mode must be selected by the COMP/DUB select switch.
② DUB or COMP indicator lights according to the DUB or COMP mode.

2-9-3. For Video Output Signal

[1] PAL SYNC GEN board (SG-67 board: for PAL)

[1] SECAM SYNC GEN board (SG-68 board: for SECAM)

(21) SYSTEM SC PHASE control (for PAL)
(22) SYSTEM H PHASE control

These two controls are used for correcting the delay of sync and SC (burst) due to the cable between the reference signal generator and the TBC. It is used, for example, when it is required to equalize the TBC output sync and SC (burst) phase to the reference signal phase by sending the TBC output back to the reference signal generator.

SYSTEM H PHASE can be adjusted in the range of −1 to +3 μs. SYSTEM SC PHASE control has the adjustable range of 360° so as to be able to adjust any phase to the reference. The SYSTEM SC PHASE control does not affect the H PHASE.

(23) BURST/CHROMA control (for PAL)
(24) BURST/CHROMA PRESET switch (for PAL)

manual: The output signal chroma phase against the burst signal is adjustable by the BURST/CHROMA control within the range of +/−15°. The phase relationship between the reference video signal burst and the TBC output signal burst is not affected by rotating the BURST/CHROMA control.

PRESET: Irrespective of the BURST/CHROMA control position, the output signal chroma phase against the burst signal becomes identical to the one of the video input signal.

(25) DG compensation control (for PAL)

The TBC output DG can be compensated by this control within the range of +/−20%. DG compensation is 0 in the mechanical center.

(26) BYPASS/NORMAL select switch

BYPASS: The bypassed output appears at the TBC output and (3) BYPASS indicator lights. When the 7-pin VDC cable is connected, the off tape video signal for the bypassed output is fed from the OFF TAPE VIDEO IN BNC connector.
In the BYPASS mode, the sync signal of VIDEO OUT 3 is not controlled ON/OFF by (76) COMP/NON COMP select switch.
When the TBC power is OFF, the BYPASS output goes off too.

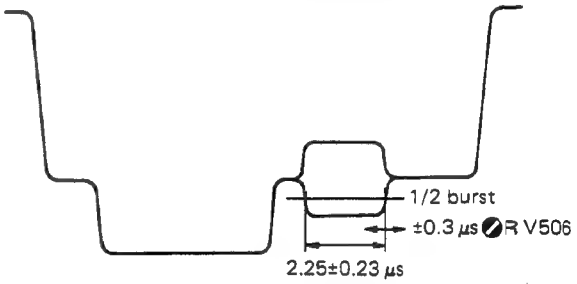
NORMAL: The time base corrected output with the shaped sync and burst signals appears at TBC output and (3) NORMAL indicator lights.

(27) S500: burst ON/OFF switch (for PAL)
See (12) B/W, COLOR, AUTO select switch.

(28) S5: ID ON/OFF switch (for SECAM)
See (13) B/W, AUTO select switch.

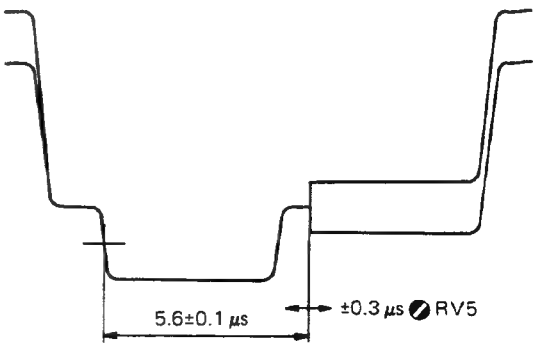
(29) RV506: burst width vr (for PAL)

The TBC output signal burst width is varied approximately +/−0.3 μs by this vr. The burst width is set to 2.25+/−0.23 μs when shipped from the factory.



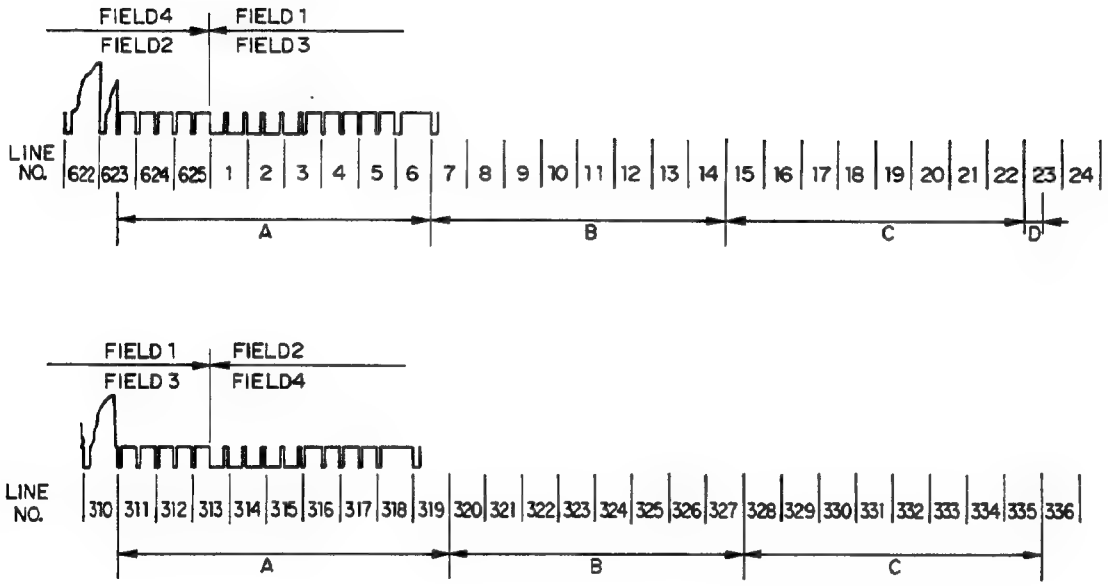
(30) RV5: chrominance SC BLKG width vr (for SECAM)

The chrominance signal blanking width of the TBC output can be varied approximately +/−0.3 μs. The blanking width is set to 5.6+/−0.1 μs when shipped from the factory.



(31) S5:
(32) S6: } **V blanking line select switches (for PAL)**
(33) S7:

The blanking of any line up to lines 7(320) – 23(335) of the TBC output signal can be turned ON/OFF.

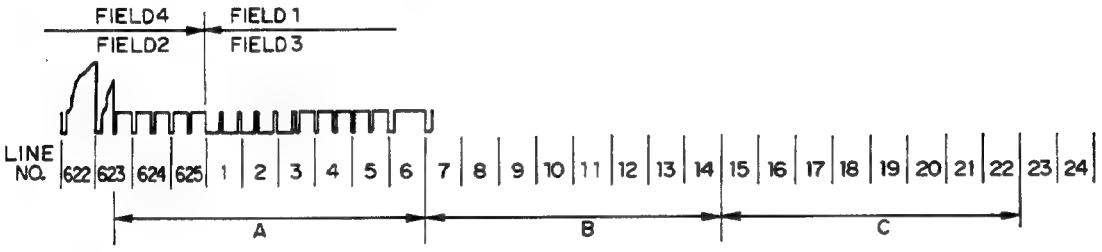


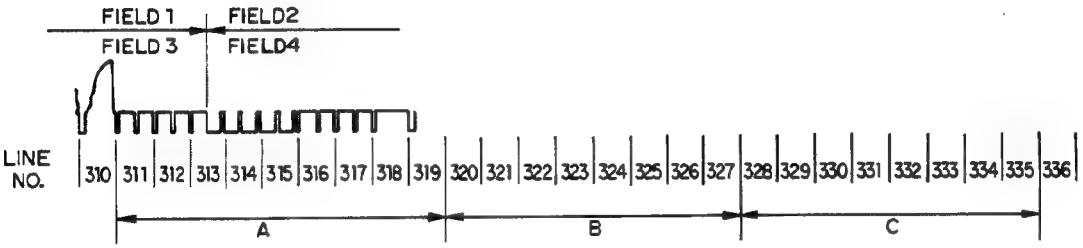
A: Having no connection with switches S5, S6 and S7, blanking is always performed.
B: Blanking of any line is turned ON/OFF by S5.
C: Blanking of any line is turned ON/OFF by S6.
D: Blanking is turned ON/OFF by S7.

These switches are all set ON when shipped from the factory.

㉞ S3: } **V blanking line select switches (for SECAM)**
㉟ S4: }

The blanking of any line up to lines 7 to 22 (320 to 335) of the TBC output signal can be turned ON/OFF. However, when ID signal is added on lines 7 to 15 (320 to 328) by setting ㉘ S5: ID ON/OFF switch to ON (Refer to ⑬ B/W, AUTO select switch.), the blanking of lines 16 to 22 (329 to 335) only can be turned ON/OFF. When the BVT-800PS operates in B/W mode and ㉘ S5: ID ON/OFF switch is set to ON, lines 7 to 22 (320 to 335) are blanked regardless of S3 and S4.





A: Having no connection with switches S3 and S4, blanking is always performed.

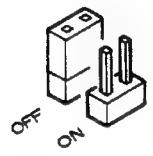
B, C:

operating mode of BVT-800PS (color or B/W)	㉘ ID ON/OFF switch	lines to be blanked
irrelevant	OFF	lines 7 to 22 (320 to 335): depends on ㉞ S3 and ㉟ S4
color	ON	lines 16 to 22 (329 to 335): depends on ㉟ S4 only
B/W	ON	lines 7 to 22 (320 to 335): irrelevant to ㉞ S3 and ㉟ S4

S3, S4 and S5 are all set ON when shipped from the factory.

(36) J4: chrominance SC blanking ON/OFF jumper (for SECAM)

Only the SECAM chrominance SC signal of the TBC output can be blanked from the line 7(320) to 22(335) by this jumper. See (13) B/W, AUTO select switch. J4 is set OFF when shipped from the factory.



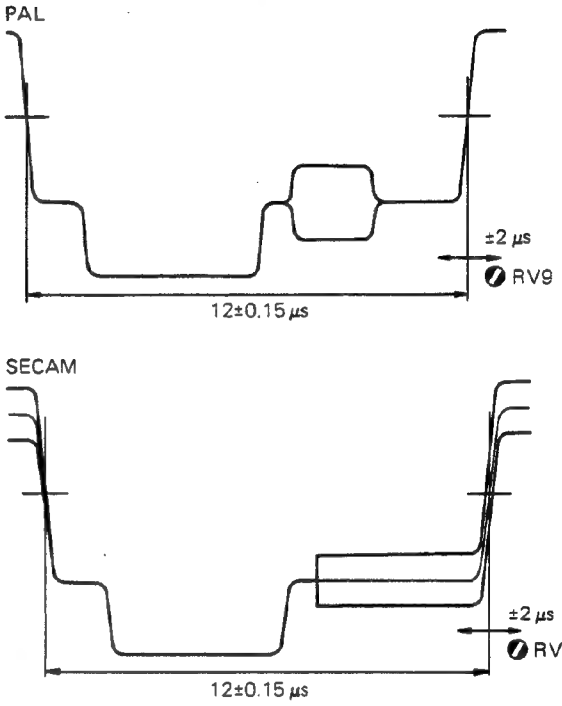
OFF: When the off tape video input signal has a chrominance SC on the lines 7(320) to 22(335), the chrominance SC appears on the lines of the BVT-800PS video output signal.
When the off tape video input signal has no chrominance SC on the lines, the unmodulated SC produced in BVT-800PS is added on the lines of the BVT-800PS video output signal. In this case, if (28) S5 ID ON/OFF switch is set to ON, the ID signal is added on the lines 7(320) to 15(328).

ON: Irrespective of whether the off tape video signal has a chrominance signal on the lines 7(320) to 22(335) or not, the BVT-800PS video output signal has no chrominance signal on the lines. However, if (28) S5 ID ON/OFF switch is set to ON, the ID signal produced in BVT-800PS is added on the lines 7(320) to 15(328).

Note: The luminance signal is not blanked by (36) J4. When utilizing a VITC signal, set (36) J4 to ON.

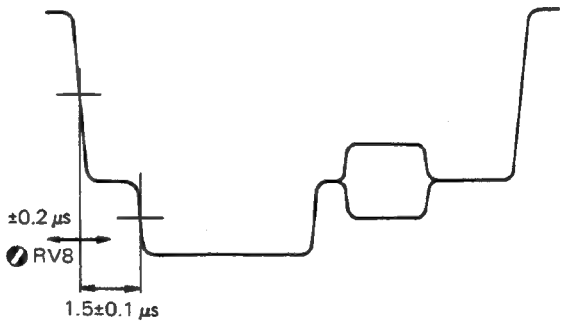
(37) RV9 (for PAL):
(37) RV6 (for SECAM): } **line blanking width vr**

The line blanking width of the TBC output signal can be varied approximately +/−2 μs.



(38) RV8: front porch width vr (for PAL)

The front porch width of the TBC output signal can be varied approximately +/−0.2 μs.



2 PROCESSOR board (PR-40 board)

(39) CHROMA level control
(40) CHROMA level PRESET switch

manual: The output signal chroma level is adjustable by the CHROMA level control within the range of +/−3 dB.
When BVT-800PS is a PAL model, be careful not to saturate the chrominance signal of the video output. If the off tape video input is a 100% color-bar signal, the BVT-800PS video output chrominance signal is saturated at +3 dB. The "+3 dB" means the total amount varied by (25) DG compensation, (39) CHROMA level and (43) VIDEO level controls.
When BVT-800PS is a SECAM model, be careful not to overmodulate the FM signal.

PRESET: Irrespective of the CHROMA level control position, the output signal chroma level becomes identical to the input chroma level.

(41) BLACK LEVEL control
(42) BLACK LEVEL PRESET switch

manual: The output signal black level is adjustable by the BLACK LEVEL control within the range from 0 to 100 mV against the input signal.

PRESET: Irrespective of the BLACK LEVEL control position, the output signal black level becomes identical to the input signal black level.

(43) VIDEO level control
(44) VIDEO level PRESET switch

manual: The output signal video level (luminance signal and chrominance signal for PAL, luminance signal only for SECAM) is adjustable by the VIDEO level control within the range of +/−3 dB.
The sync signal level is constant at 300 mV regardless of the VIDEO level control.

PRESET: Irrespective of the VIDEO level control position, the output signal video level becomes identical to the input signal video level. The sync signal level is constant at 300 mV.

(45) Y/C DELAY control
(46) Y/C DELAY PRESET switch

manual: The video output chrominance signal phase against the luminance signal can be varied by the Y/C DELAY control within the range of +/−150 ns. The adjustable range can be shifted by (47) S1 Y/C DELAY switch on CLOCK GEN board. See the following table.

PRESET: The Y/C delay control becomes inactive but (47) S1 is active in this case also.

(46) Y/C DELAY PRESET switch	(47) Y/C DELAY switch	chrominance signal phase against luminance signal	
manual	+	+180 ± 150 ns	adjustable by (45) Y/C DELAY control
	0	0 ± 150 ns	
	−	−180 ± 150 ns	
PRESET	+	+180 ns	
	0	0 ns	
	−	−180 ns	

+: Chrominance signal is advanced.
0: The output chrominance signal phase against the luminance signal is identical to the input signal.
−: Chrominance signal is delayed.

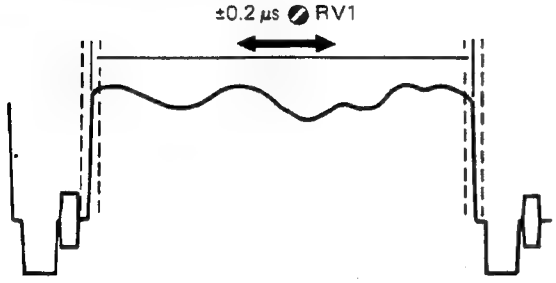
(47) Y/C DELAY switch is set at 0 position when shipped from the factory.

3 CLOCK GEN board (CK-11 board)

(47) S1: Y/C DELAY switch
See (45) Y/C DELAY control.

(48) S2: chroma SHIFT/INVert switch (for PAL)
When the PAL video input chrominance signal odd/even (135°/225°) does not coincide with one of the reference signal, the input chrominance signal is shifted one line or inverted in the TBC to coincide with the reference signal.
In BVT-800PS (PAL), when the VTR is in the normal playback mode (i.e. FWDx1 speed playback by R/P head), the input signal odd/even coincides with the reference signal by inversion regardless of this switch. When the VTR is in BIDIREX or DT play mode (i.e. playback by R/P head excepting FWDx1 speed or playback by DT head), inversion or one line shift is selectable by this switch. It is set to SHIFT position when shipped from the factory.
This switch does not affect the operation of BVT-800PS SECAM model.

㊾ **RV1: video phase vr**
The video phase of the TBC output signal can be continuously varied ±0.2 μs.
It is set to coincide with the bypass output video phase when shipped from the factory.



2-9-4. For Remote Control

The following functions can be remote-controlled from Sony BK-2007 Remote Control Unit.

VIDEO level control & manual/PRESET select
CHROMA level control & manual/PRESET select
BLACK LEVEL control & manual/PRESET select
*BURST/CHROMA control & manual/PRESET select
SYSTEM H (SYNC) PHASE control
*SYSTEM SC PHASE control
*: for PAL only

Note 1. Take notice that the ALL PRESET indicator on the BVT-800PS has no relation to the setting of the remote controller.
Note 2. The above controls and manual/PRESET switches can be controlled from BK-2007 by setting the following switches in BVT-800PS to REMOTE position.
Note 3. V PHASE cannot be controlled from BK-2007 but its LOCAL/REMOTE is selectable by ㊶ S4 (PAL) or ㊷ J304 (SECAM). If you make a remote controller that is different from BK-2007, you can control V PHASE from the remote controller and also indicate V PHASE on the controller.

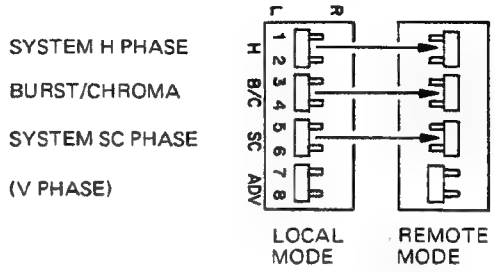
㊶ **S4: Local/Remote select switch (for PAL)**
(1 PAL SYNC GEN board)

㊷ **J304: Local/Remote select jumper (for SECAM)**
㊸ **J305: Local/Remote select jumper (for SECAM)**
(1 SECAM SYNC GEN board)

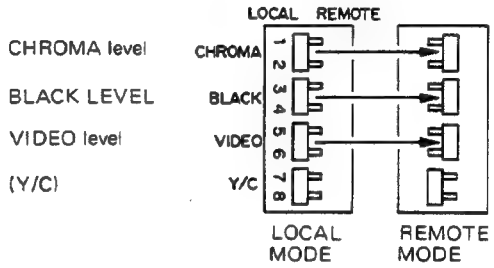
㊹ **S6: LOCAL/REMOTE select switch**
(2 PROCESSOR board)

for PAL

㊶ S4 (1 PAL SYNC GEN board)

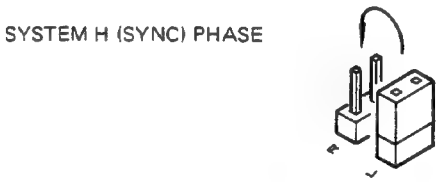


㊹ S6 (2 PROCESSOR board)

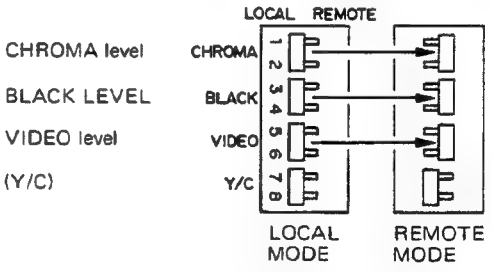


for SECAM

㊸ J305 (1 SECAM SYNC GEN board)
Pull out the jumper plug from the socket L and plug in the socket R.

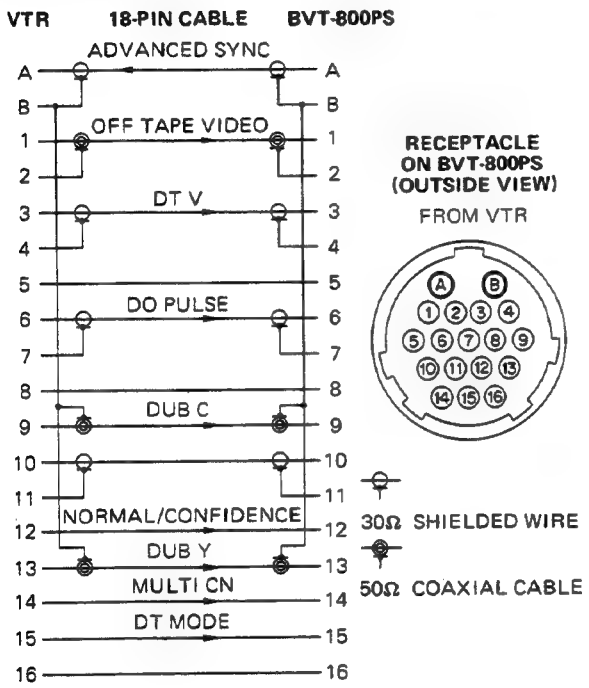


㊹ S6 (2 PROCESSOR board)



2-9-5. Connector Panel

(71) **FROM VTR connector** (18-pin, male)
Used when connecting a BVU-800/820 series VTR equipped with 18-pin TBC connector. Use the 18-pin cable (3 m) supplied with BVT-800PS. Do not use other cable.



BVT-800PS output signal

ADVANCED SYNC
2.2 Vp-p +/– 0.3 Vp-p 600 ohm
composite
negative polarity
The phase is in advance of the reference signal by 16H and +/– 1.5H adjusted by (11) V PHASE control. In the confidence mode (simultaneous playback), the phase is not guaranteed.

BVT-800PS input signal

OFF TAPE VIDEO
1 Vp-p 50 ohm
+/– 3 dB adjustable
sync negative

DUB Y
off tape luminance signal
0.5 Vp-p (sync tip to 100% white) 75 ohm
+/– 3 dB adjustable
sync negative

DUB C
off tape chrominance signal (down converted by U-matic H VTR)
0.5 Vp-p (75% color-bar) 75 ohm
When the pin 14 "MULTI CN" is grounded at the VTR, BVT-800PS gives priority automatically to OFF TAPE VIDEO, DUB Y and DUB C signals over BNC OFF TAPE VIDEO input. Refer to (16) COMP/DUB select switch. The pin 1 OFF TAPE VIDEO signal is used for BYPASS video only.

DT V
TTL level, falling edge reference.

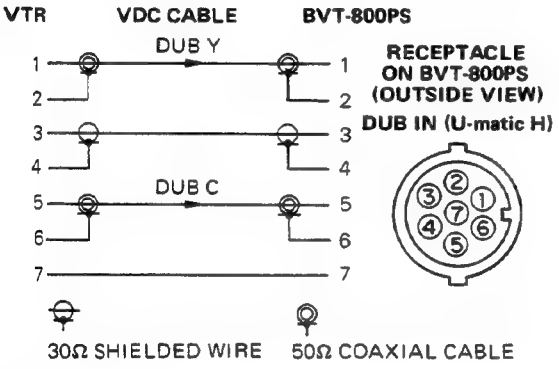
DO PULSE
TTL level, dropout: LOW
When the 18-pin multiple cable is used, the BNC "DOC RF" signal is not needed.

NORMAL/CONFIDENCE
TTL level
confidence mode (simultaneous playback): low

MULTI CN
grounded at VTR.

DT MODE
TTL level, DT mode: LOW

(72) DUB IN (U-matic H) connector (7-pin, male)
Connector between a BVU-200 series VTR equipped 7-pin DUB OUT connector and BVT-800PS. Use the VDC cable supplied with the VTR. When connected by this cable, the DUB mode gives a better picture than the COMP mode. Refer to (16) COMP/DUB switch.
When the VTR and the TBC are connected by 18-pin cable, the connection by VDC cable is not needed.
When the VTR is neither BVU-200 series nor BVU-800/820 series, even though it is equipped with a DUB OUT connector, it must not connected to BVT-800PS with VDC cable. Its off tape video signal must be inputted to BNC OFF TAPE VIDEO IN connector and the COMP mode must be selected by (16) COMP/DUB switch.



DUB Y input
off tape luminance signal
0.5 Vp-p (sync tip to 100% white) 75 ohm
+/– 3 dB adjustable
sync negative

DUB C input
off tape chrominance signal (down converted by U-matic H VTR)
0.5 Vp-p (75% color-bar) 75 ohm

(73) OFF TAPE VIDEO IN connector (BNC connector)
1 Vp-p 75 ohm
+/– 3 dB adjustable
sync negative
Connector for inputting the VTR's video output.
When the VTR is neither BVU-200 series nor BVU-800/820 series, even though it is equipped with DUB OUT connector, its off tape video signal must be inputted to this BNC connector and it must not be connected by VDC cable. In this case, (16) COMP/DUB select switch must be set to COMP.
When the 7-pin VDC cable is connected to the DUB IN connector, the off tape video signal (DUB Y and DUB C signals) is fed from the DUB IN connector and (16) COMP/DUB select switch should be set to DUB. In this case, the OFF TAPE VIDEO IN signal from the BNC connector is used for BYPASS video.
When the 18-pin multiple cable is connected, the off tape video signal from the multiple cable is given priority.

(74) DOC RF IN connector (BNC connector)
0.5 Vp-p +/– 6 dB 75 ohm
Connector for inputting the off tape RF signal to detect a dropout. Connected to the OFF TAPE RF connector of the VTR. When the 18-pin multiple cable is used, the "DOC RF" signal is not needed.

(75) VIDEO OUT 1, 2, 3 connectors (BNC connector)
(76) COMP/NON COMP switch
1 Vp-p 75 ohm
sync negative
VIDEO OUT connector on TBC. Sync signal of VIDEO OUT 3 is ON/OFF controlled by the COMP/NON COMP switch, however, in the BYPASS mode, the composite signal is always outputted.

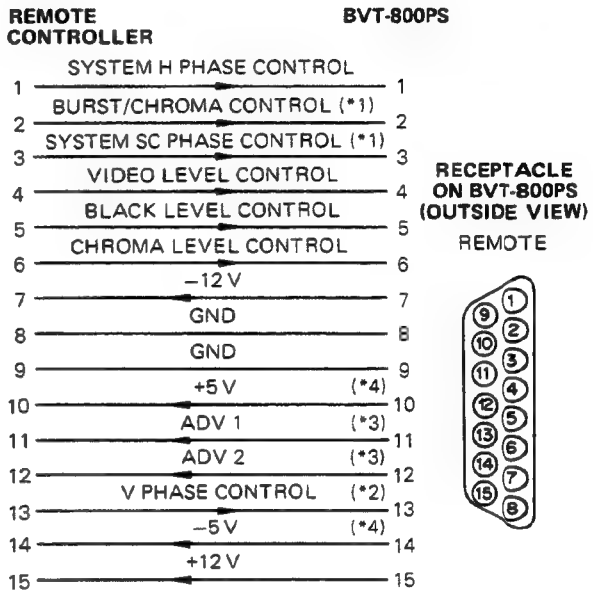
(77) **ADV SYNC OUT connector** (BNC connector)
2.2 Vp-p +/– 0.3 Vp-p 75 ohm
composite
negative polarity
This is the sync signal connector for transmitting to the VTR from the TBC advanced by 16H more than the reference signal. The "ADV SYNC" phase is in advance of the reference signal by 16H and +/– 8H adjusted by (11) V PHASE control. In the confidence mode (simultaneous playback), the phase is not guaranteed.
Connect to the SYNC IN or VIDEO IN connector on the VTR. When an 18-pin multiple cable is used, the connection by the BNC connector is not needed.

(78) **REFERENCE COMP VIDEO IN/OUT connector** (BNC connector)

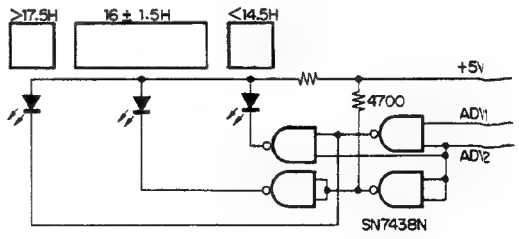
(79) **75 ohm ON/OFF switch**
composite video or black burst signal
1 Vp-p +/– 3 dB 75 ohm
(sync: 300 mV +/– 3 dB, burst: 300 mV +/– 3 dB)
sync negative
TBC reference signal input connector. If no signal is inputted, the TBC operates with its internal reference signal.
When looping, switch to 75 ohm OFF and when terminating, switch to 75 ohm ON.

(80) **SPARE connector** (BNC connector)
It is not wired to the inside circuit. Use it when necessary to the modification.

(81) **REMOTE connector** (D-sub 15-pin, male)
Connector to remote-control the BVT-800PS from Sony Remote Control Unit BK-2007. Use the 15 conductors ribbon cable (2 m) supplied with BK-2007.
Local or Remote mode is selected by the switches on the circuit board. Refer to section 2-9-4. For Remote Control.



(*1) Applicable for PAL model only.
(*2) BK-2007 has not V PHASE control function but if you make a remote controller different from BK-2007, this function becomes operative. Refer to the section 2-9-4. For Remote Control.
(*3) BK-2007 cannot indicate V PHASE on it but if you make a remote controller different from BK-2007, these signals enable to indicate V PHASE on the remote controller as same as (6) V PHASE indicators on the BVT-800PS.



(*4) BK-2007 does not utilize +/– 5 V directly. When making a remote controller, these +/– 5 V may be convenient.

(82) BREAKER

AC 250 V 1.6 A

When the current exceeds the rated value, the BREAKER button turns OFF and the circuit opens. Depressing the button again, it is reset.

(83) VOLTAGE SELECTOR

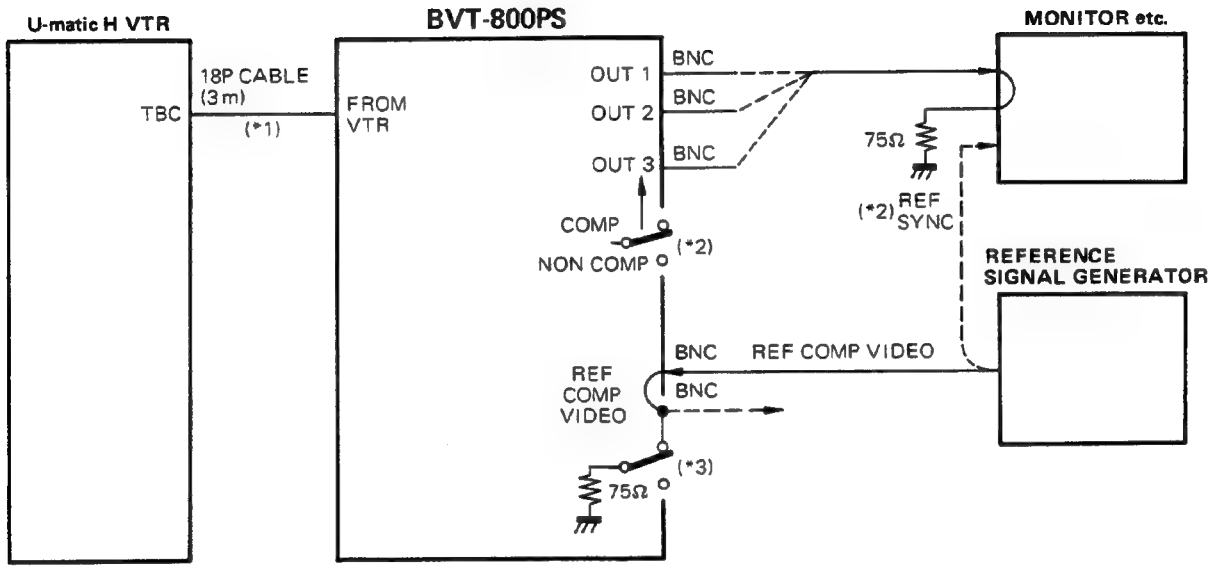
When changing the line voltage, move this left or right in accordance with the power line voltage. See section 2-4. Power Requirements.

(84) power cord

When shipped from the factory, no AC plug may be mounted. If not, prepare and mount a 3-pin plug. When mounting the plug to the power cord, be careful to the polarity. See section 2-4. Power Requirements.

2-10. CONNECTION EXAMPLES

Connection 1: U-matic H VTR with an 18-pin TBC connector (Ex. BVU-800P/S, BVU-820P/S)



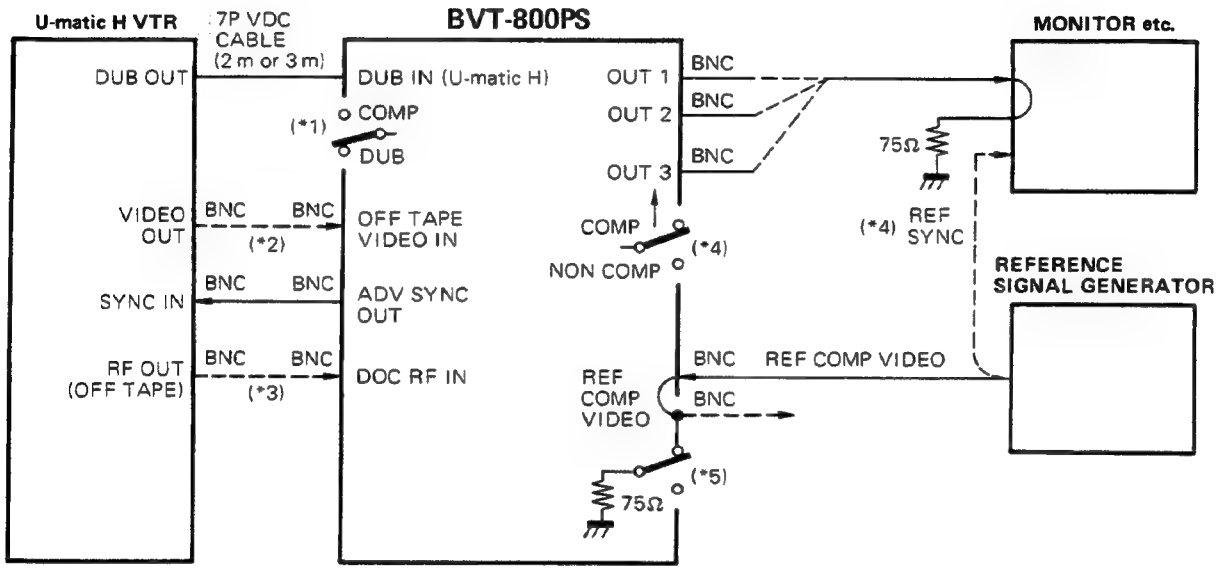
(*1) 18-pin cable & COMP/DUB mode
When connected by an 18-pin cable, BVT-800PS operates in the DUB mode regardless of the COMP/DUB select switch position.

(*2) OUT 3, COMP/NON COMP switch & REF SYNC signal to the monitor etc.
When the COMP/NON COMP switch is set to NON COMP, the OUT 3 has no sync signal and the reference sync input is needed for the monitor etc. In the BY-PASS mode, OUT 3 also outputs the composite signal.

(*3) REF COMP VIDEO & 75Ω switch
When looping the reference composite video signal (or black burst signal), set the 75 ohm switch to OFF and when terminating it, set it to ON. If no signal is inputted, the TBC operates with its internal reference signal.

Connection 2: U-matic H VTR with a 7-pin DUB OUT connector (Ex. BVU-200P/S)

Note: Not applicable to a regular U-matic VTR, even though it is equipped with a 7-pin DUB OUT connector. Refer to Connection 3 for the regular U-matic VTR.



(*1) COMP/DUB select switch
Set the switch to DUB.

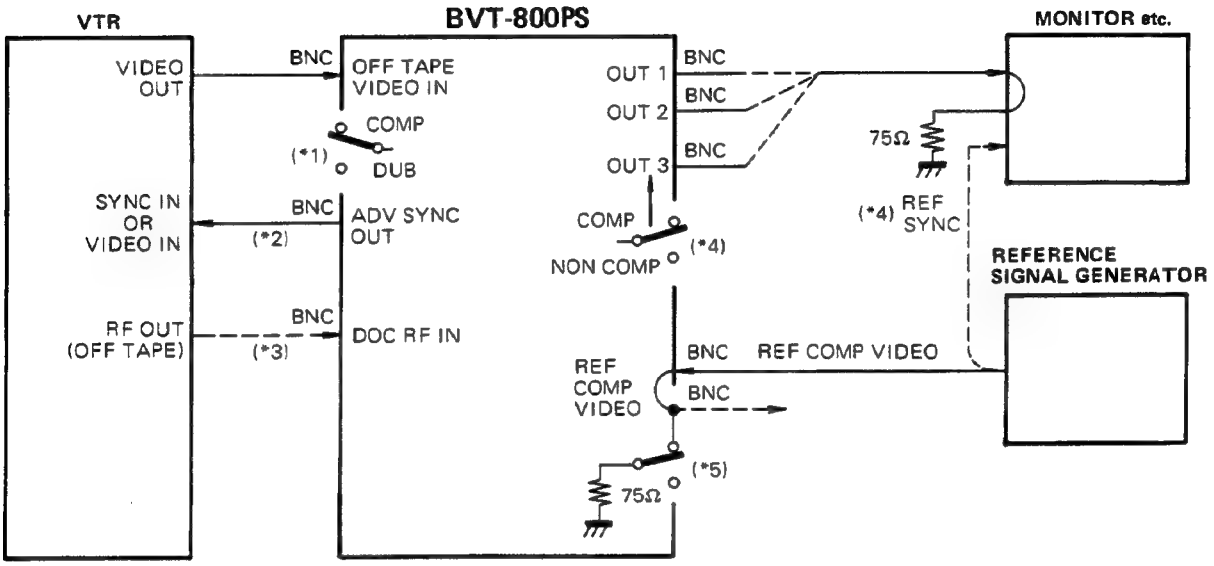
(*2) OFF TAPE VIDEO IN
In the BYPASS mode, this signal is needed.

(*3) DOC RF IN
DOC in the TBC is impossible unless the off tape RF signal of the VTR is connected.

(*4) OUT 3, COMP/NON COMP switch & REF SYNC signal to the monitor etc.
When the COMP/NON COMP switch is set to NON COMP, the OUT 3 has no sync signal and the reference sync input is needed for the monitor etc. In the BYPASS mode, OUT 3 also outputs the composite signal.

(*5) REF COMP VIDEO & 75Ω switch
When looping the reference composite video signal (or black burst signal), set the 75 ohm switch to OFF and when terminating it, set it to ON. If no signal is inputted, the TBC operates with its internal reference signal.

Connection 3: VTR equipped with a capstan servo



(*1) COMP/DUB select switch
Set the switch to COMP.

(*2) ADV SYNC OUT
When the VTR has no SYNC IN connector, connect to the VIDEO IN connector.

(*3) DOC RF IN
DOC in the TBC is impossible unless the off tape RF signal of the VTR is connected.

(*4) OUT 3, COMP/NON COMP switch & REF SYNC signal to the monitor etc.
When the COMP/NON COMP switch is set to NON COMP, the OUT 3 has no sync signal and the reference sync input is needed for the monitor etc. In the BY-PASS mode, OUT 3 also outputs the composite signal.

(*5) REF COMP VIDEO & 75Ω switch
When looping the reference composite video signal (or black burst signal), set the 75 ohm switch to OFF and when terminating it, set it to ON. If no signal is inputted, the TBC operates with its internal reference signal.

2-11. SPECIFICATIONS

GENERAL

Dimensions 424(w) x 88(h) x 515(d) mm
Weight 13 kg
Power Requirements
AC100-120/220-240 V selectable
100-120 V mode: AC90 to 132 V
220-240 V mode: AC198 to 264 V
48 to 62 Hz
100 W
Ambient Operating Conditions
Temperature 0 to +40°C
Humidity 10 to 90% (noncondensing)

VIDEO

Band Width
DUB Mode Y: 3.5 MHz +/– 0.4 dB
4.3 MHz –3 dB
C: +/– 0.75 MHz –3 dB for PAL
+/– 0.5 MHz –3 dB for SECAM
COMP Mode Y: 2.5 MHz +/– 0.4 dB
3.25 MHz –3 dB
C: +/– 0.7 MHz –3 dB for PAL
+/– 0.5 MHz –3 dB for SECAM
Signal-to-Noise Ratio
More than 55 dB
(peak-to-peak video to rms noise)
Differential Gain (for PAL)
2%
Differential Phase (for PAL)
2°
K Factor (2T Pulse)
DUB Mode 2%
COMP Mode 4%
Chrominance/Luminance Delay
10 ns
Correction Range 29 Hp-p
Residual Error
Color +/– 2.5 ns for PAL
+/– 15 ns for SECAM
B/W +/– 15 ns

INPUT SIGNALS

Off Tape Video 1 Vp-p 75 ohm, +/– 3 dB adjustable, sync negative
DOC RF 0.5 Vp-p +/– 6 dB 75 ohm
Reference Composite Video
1 Vp-p +/– 3 dB 75 ohm,
sync negative
75 ohm ON/OFF, Looping is possible.

OUTPUT SIGNALS

Video Out 1, 2, 3 1 Vp-p 75 ohm, sync negative
Sync signal of VIDEO OUT 3 is controlled ON/OFF by the COMP/NON COMP switch.
Advanced Sync 2.2 +/– 0.3 Vp-p 75 ohm
negative polarity

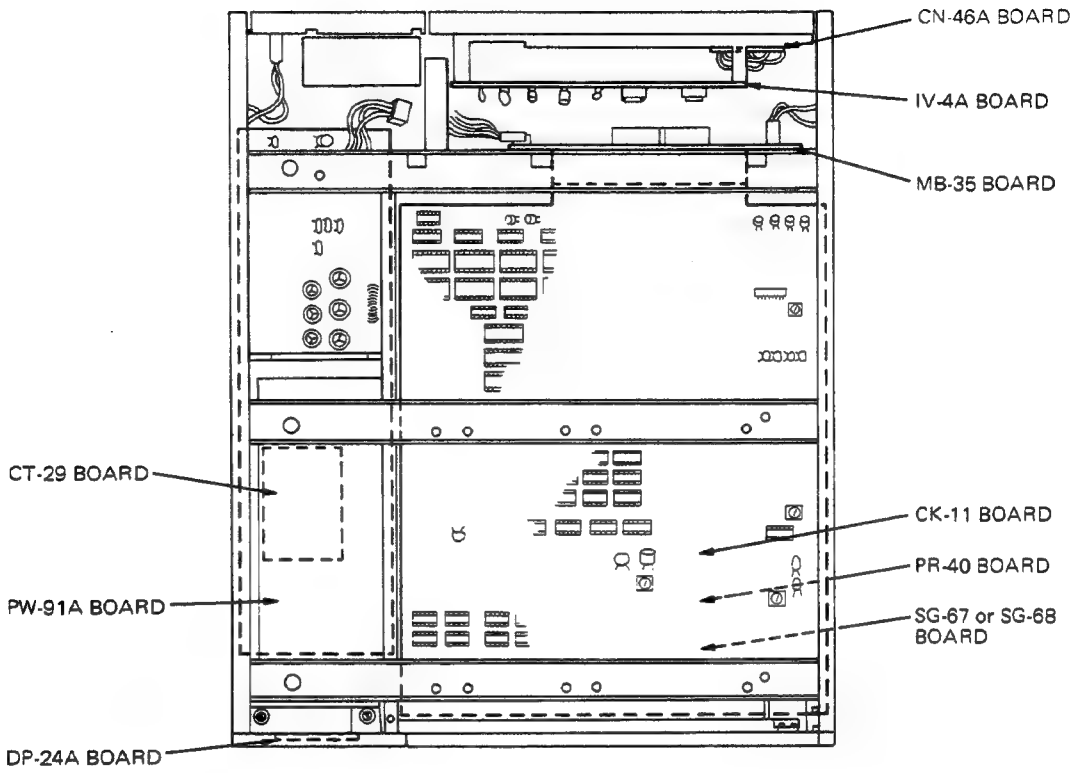
OUTPUT CONTROLS

Video Level +/– 3 dB (composite for PAL)
(luminance for SECAM)
Chroma Level +/– 3 dB
Black Level 0 to +0.1 V
Burst/Chroma Phase (for PAL)
+/– 15°
DG Compensation (for PAL)
+/– 20%
System H Phase –1 to +3 μs
System SC Phase (for PAL)
more than +/– 180°
Y/C Delay +/– 150 ns

Note: For the "FROM VTR" and "DUB IN" multiple connector signals, see "Section 2-9-5 Connector Panel".

SECTION 3
SERVICE INFORMATION

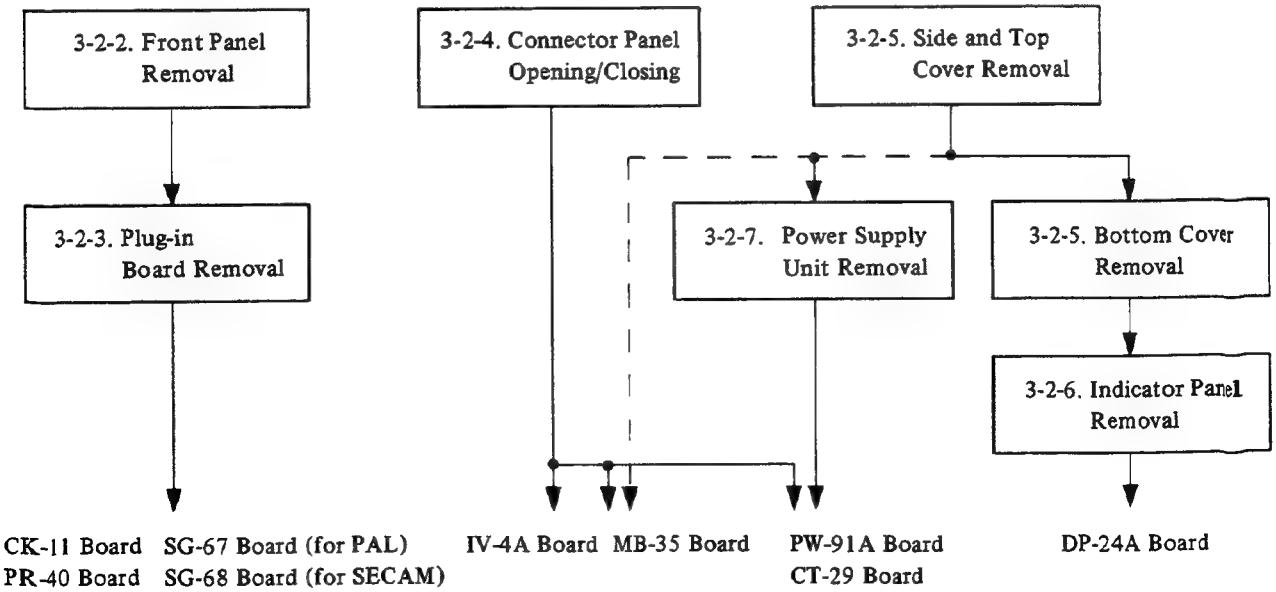
3-1. PRINTED CIRCUIT BOARD LOCATION



3-2. CABINET REMOVAL

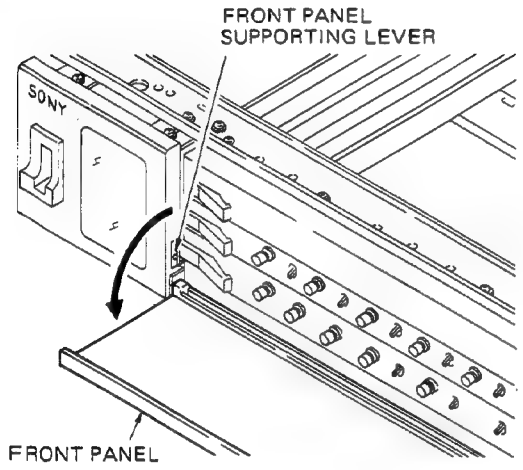
3-2-1. Cabinet Removal Flowchart

The following is the working procedure necessary for checking each printed circuit board. Process indicated by dotted lines is optional:



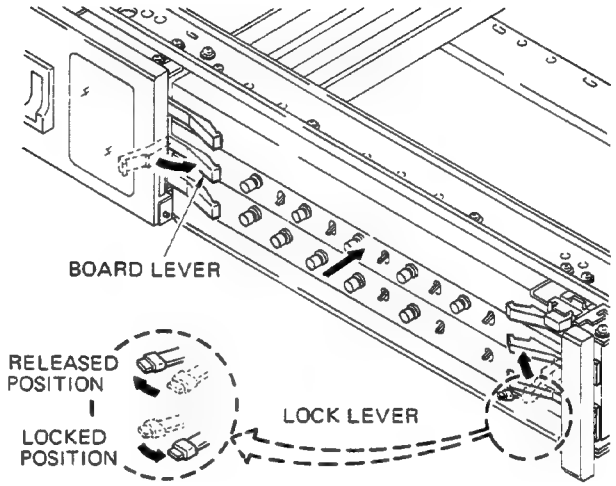
3-2-2. Front Panel Removal

Push the upper part of the front panel to open it and push it again to close it. The front panel is designed to be removable so that the equipment may be used without it.
Push the front panel supporting lever using the finger or tip of a screwdriver to remove it.



Installation

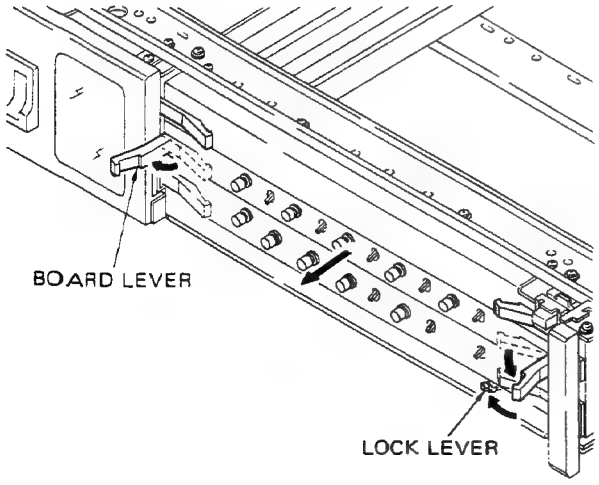
(1) Leave the lock lever moved in the direction indicated.
(2) Push in the boards leaving the board levers lifted and lay the levers inside when the boards are set.
(3) Move the lock lever to the right.



3-2-3. Plug-in Board Removal

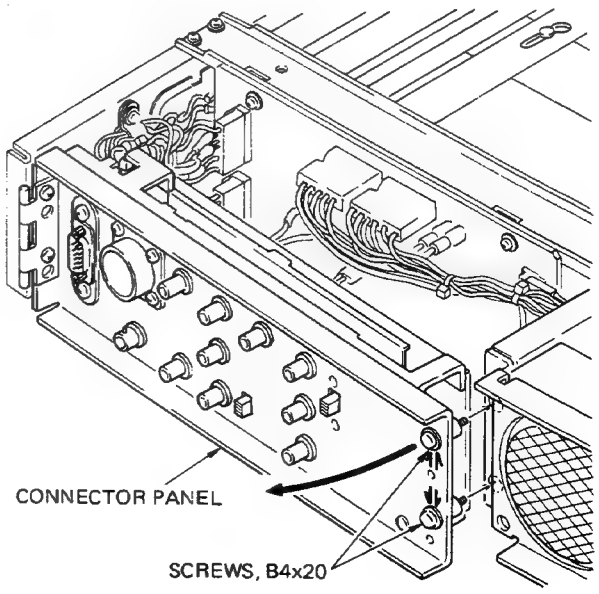
Removal

(1) Move the lock lever in the direction indicated.
(2) Lift both left and right board levers.
(3) Pull out the boards.



3-2-4. Connector Panel Opening/Closing

Loosen the two screws and open the connector panel as shown below.

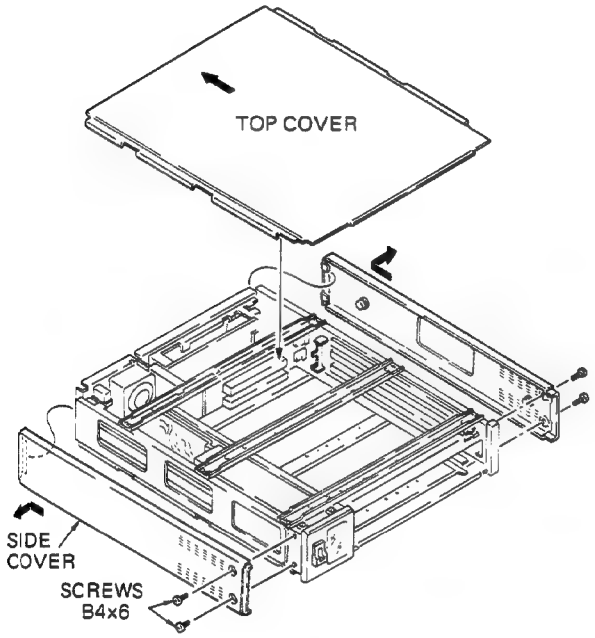


3-2-5. Side, Top and Bottom Cover Removal

Side and Top Cover Removal

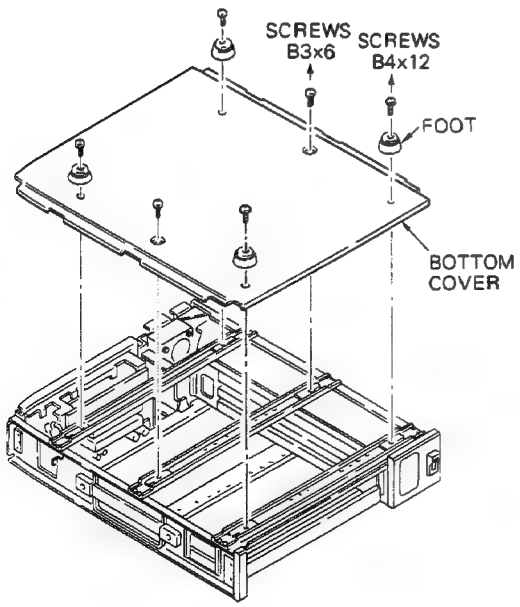
(1) Remove the B4x6 screws (two on each side) and then remove side covers as shown below.

(2) Pull the top cover in the direction indicated.



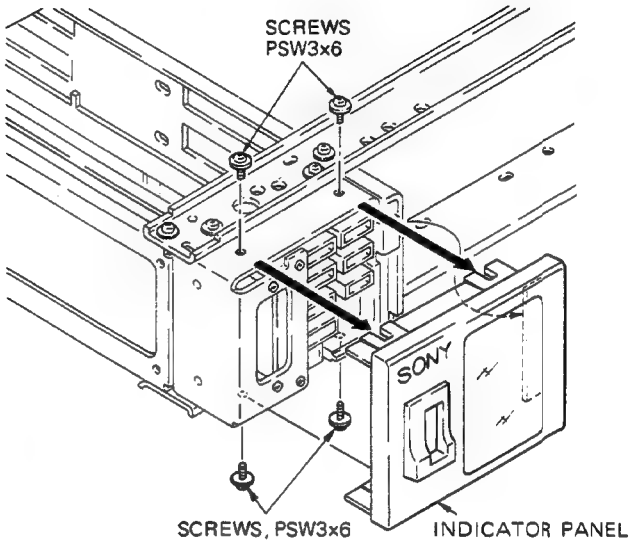
Bottom Cover Removal

(3) Remove the four feet and the two B3x6 screws.



3-2-6. Indicator Panel Removal

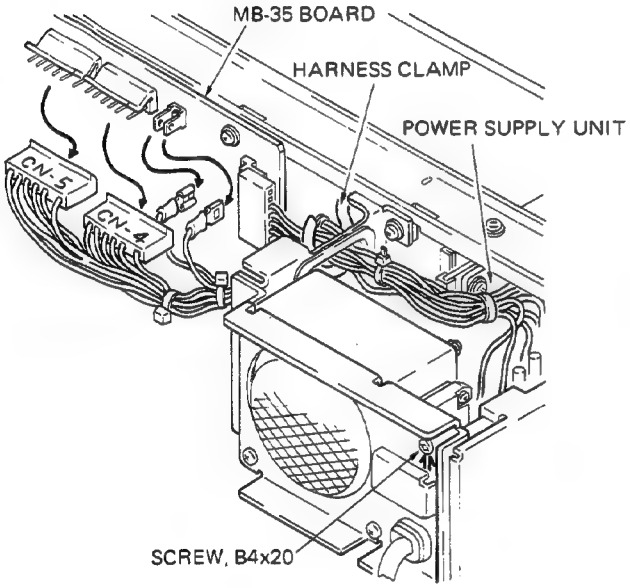
After removing top and bottom covers, remove the four PSW3x6 screws as shown below.



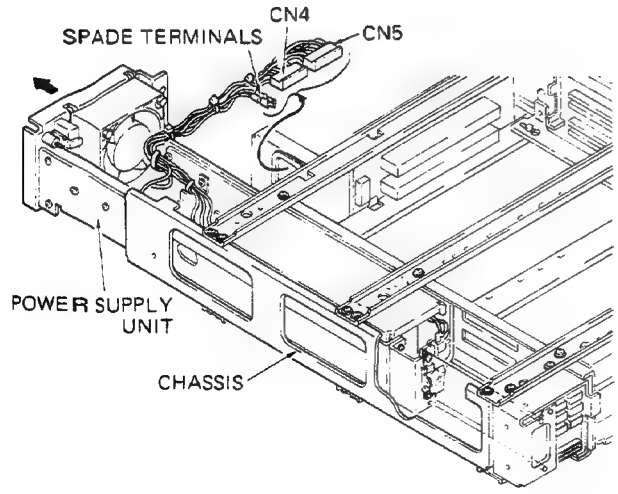
3-2-7. Power Supply Unit Removal

Open the connector panel and pull out the power supply unit following the procedure below:

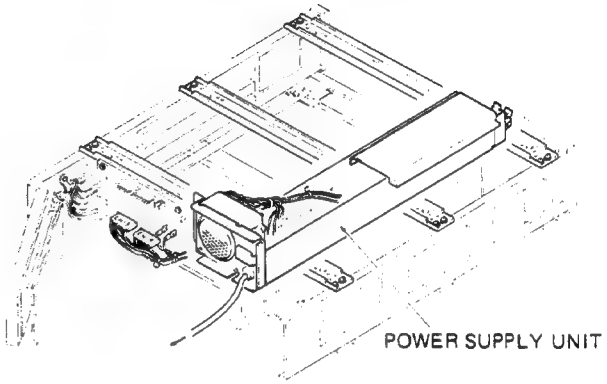
(1) Loosen the B4x20 screw.
(2) Disconnect CN4, CN5 and the two spade terminals from the MB-35 board.
(3) Loosen the harness clamp and push into the power supply unit.



(4) Pull out the power supply unit in the direction indicated.



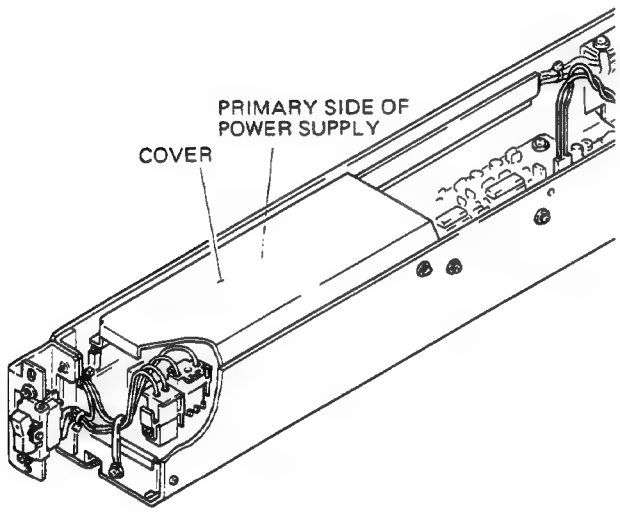
(5) **Power supply unit checking method**
After removing the power supply unit, place it on the equipment and connect CN4, CN5 and spade terminals to the MB-35 board. Then switch on the power supply in this condition.



3-3. NOTES ON SERVICING

3-3-1. Notes on the Power Supply Unit

(1) Most of the circuits are in the primary side as this model's power supply is a switching regulator, so be careful to avoid electric shock. The primary is the area protected with a cover in the following figure.



(2) There is a danger of shock even after switching off the power, due to remaining charge in the capacitors. Care is needed for about one minute after switching off.

(3) Perform checks with CN4, CN5 and two spade terminals connected to MB-35 board as operation of the power supply unit with no load could damage it.

(4) A breaker functions when the equipment is powered at AC220-240 V with its voltage selector set to AC100-120 V.

(5) The equipment does not operate if the input voltage is below the rated value, i.e., it will not operate at AC110-120 V with its power voltage selector set at AC220-240 V.

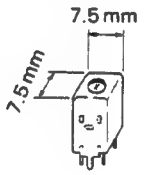
(6) If the power supply stops generating during use due to abnormal conditions, it will not restart unless switched on again. One minute or more must be allowed for restarting.

3-3-2. Plug-in Board Lock Mechanism

This model is equipped with a lock mechanism to avoid detaching the plug-in boards. Move the lock lever to the left to release the boards and to the right to lock them. When loading or detaching a board, first unlock and then use the board levers. See Section 3-2-3 "Plug-in Board Removal".

3-3-3. Note on Square Fixed Inductor

The following square fixed inductor appears similar to variable inductors, but those mounted on the printed circuit boards and those in stock as the repair parts are all set at the factory and must not be re-adjusted in the field.

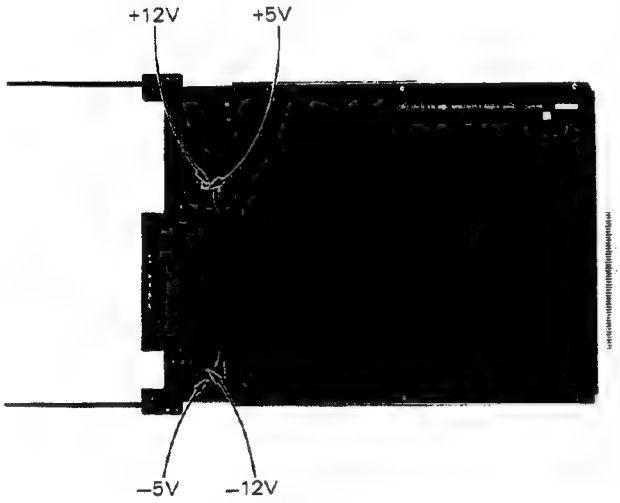


3-4. SERVICE TOOLS

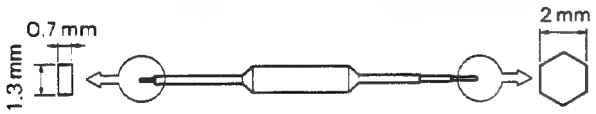
Extension Board: EB-9A Sony Part No. A-6252-050-A

Used for checking and repairing the plug-in boards. BVT-800PS has 1 pc as an accessory.

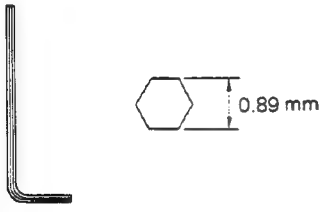
If the EB-9A extension board is inserted into the BVT-800PS, it is possible to check that +12 V, −12 V, +5 V and −5 VDC is being supplied by checking the illumination of the red LEDs on the extension board.



Adjusting Screwdriver Sony Part No. 7-700-733-01



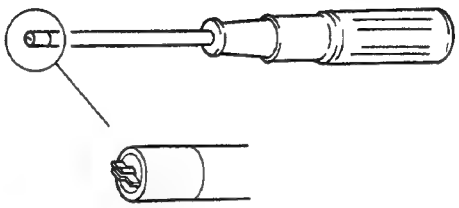
Hexagonal Wrench Sony Part No. 7-700-736-06



"TOTSU" Screwdriver

3 mm DIA Sony Part No. 7-721-050-63

4 mm DIA Sony Part No. 7-721-050-64



IC Test Clip

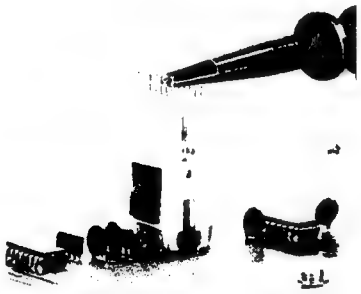
Type TC-16 Sony Part No. J-6041-770-A

Type TC-20 Sony Part No. J-6041-780-A

Manufacturer;

AP PRODUCTS INCORPORATED
Box 697 72 Corwin Drive
Painesville, Ohio 44077, USA
TEL; 216-354-2101

When connecting the test probe to the terminal of DIP integrated circuit, these clips are convenient. Type TC-16 is for DIP 14-pin or 16-pin IC and Type TC-20 is for 18-pin or 20-pin IC.



3-5. NOTES ON REPAIR PARTS

(1) Safety Related Components Warning.

Components identified by shading marked with ⚠ on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony parts whose part numbers appear in this manual or in service bulletins and service manual supplements published by Sony.

(2) Standardization of Parts

Repair parts supplied from Sony Parts Center may not be always identical with the parts which actually in use due to "accommodating the improved parts and/or engineering changes" or "standardization of genuine parts."

This manual's exploded views and electrical spare parts lists are indicating the part numbers of "the standardized genuine parts at present".

(3) Change of Parts

Regarding engineering parts changes, refer to Section E "CHANGED PARTS".

(4) Stock of Parts

Printed Components in Bold-Face type on the exploded views and electrical spare parts list are normally stocked for replacement purposes. The remaining parts are not normally required for routine service work. Orders for parts not shown in Bold-Face type will be processed, but allow for additional delivery time.

(5) Units for Capacitors, Inductors and Resistors

The following units are assumed in the schematic diagram and electrical parts list unless otherwise specified:

Capacitors: μF
Inductors: μH
Resistors: ohm

SECTION 4
THEORY OF OPERATION

4-1. OUTLINE OF BVT-800PS

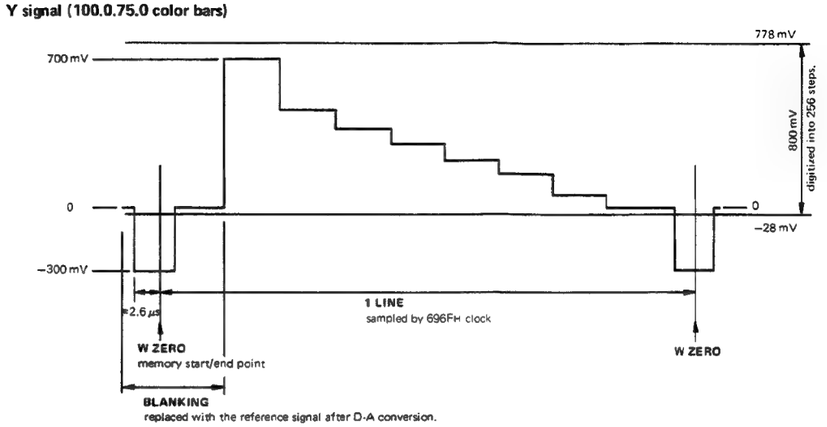
BVT-800PS is a TBC designed for SC low frequency conversion type PAL or SECAM VTR such as U-matic. It has a wide correction range of 29Hp-p, applicable to DT play and BIDIREX play also. The VTR must be able to V-lock to an external signal while playing back.

BVT-800PS for PAL and for SECAM consists of the common circuits except a sync generator circuit board. The sync generator board for PAL or SECAM is mounted in each BVT-800PS and these boards are available as options BKT-801 (for PAL) and BKT-802 (for SECAM).

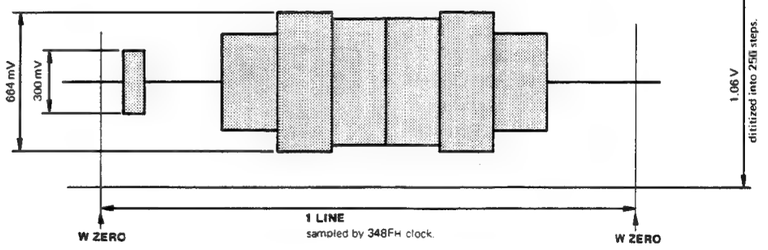
The off tape video signal is inputted to BVT-800PS by the two formats. One is a composite signal and the other is Y and C signals that are separated in the VTR. The SC frequency of the C signal is down converted in the U-matic H VTR. The process of the composite signal in the TBC is named COMP mode and the other is called DUB mode.

The off tape video signal is digitized into 256 steps (8 bits). The sampling frequency is 696FH for Y signal and 348FH for C signal.

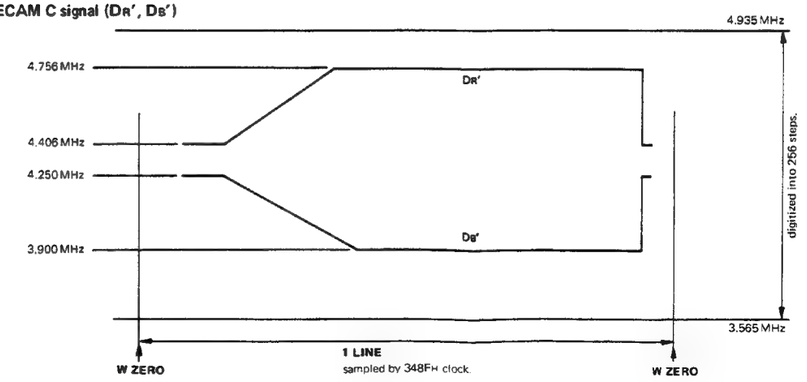
Y signal (100.0.75.0 color bars)



PAL C signal (100.0.75.0 color bars)



SECAM C signal (DR', DB')



4-1-1. Outline of BVT-800PS PAL

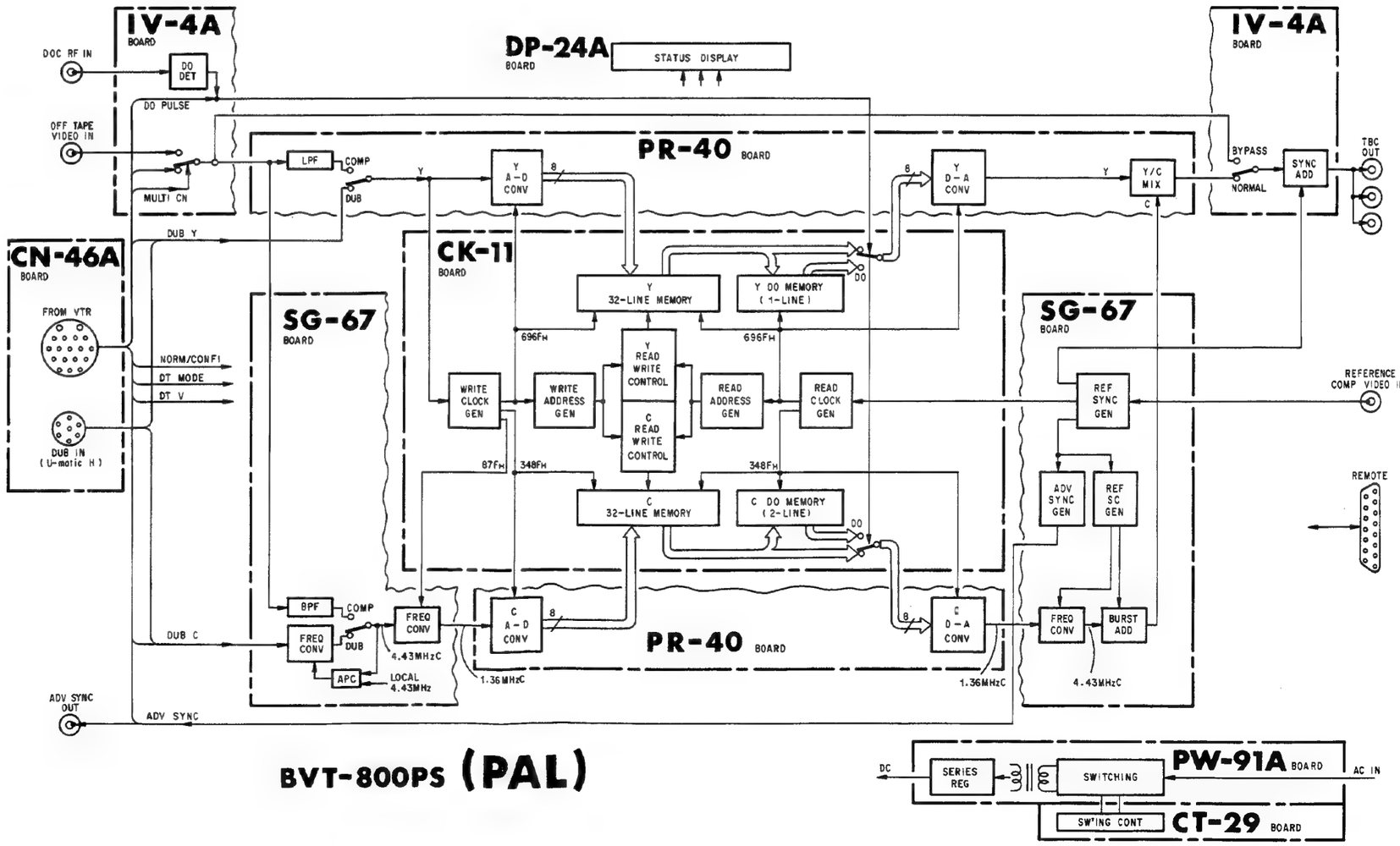
In the COMP mode, the Y signal of the off tape composite signal has a time-base error but the time-base error of the C signal is cancelled in the VTR when the SC is reconverted into PAL frequency. The composite signal is separated into Y and C signals in the TBC.
In the DUB mode, the Y and C signals which have the same time-base error are inputted to the TBC and the SC frequency of the C signal is down converted in the U-matic H VTR. Once the C signal is reconverted into PAL frequency in the TBC, the time-base error is cancelled and the C signal becomes equivalent to the C signal in the COMP mode.
Next, the C signal is frequency-converted into 1.36 MHz and given the same time-base error as that of the Y signal by the carrier that is formed from the horizontal sync signal.

The Y signal is sent to Y A-D converter and the 1.36 MHz C signal is sent to C A-D converter.
The Y signal is sampled by the 696FH clock (Y WRITE CLOCK) formed from the horizontal sync signal of the Y signal and converted into 8-bit binary code (256 steps). The digitized data are written into Y 32-line memory.
The 1.36 MHz C signal is sampled by the 348FH clock (C WRITE CLOCK) and converted into 8-bit binary code. The digital C signal is written into C 32-line memory.
The written data are then read out by READ CLOCK (Y: 696FH, C: 348FH) made from a reference signal which has no time-base error. They are sent to DOC (Drop-Out Compensator) and D-A converter.

Y DOC consists of a 1-line memory and C DOC consists of a 2-line memory. Normally the D-A converter input is the data read out from 32-line memory, but when a dropout occurs in the VTR, the affected part is replaced with the data read out from the DOC memory. Y DOC replaces the Y signal with the signal before 1H and C DOC replaces the C signal with the one before 2H.

The Y and C signals read out from each 32-line memory or DOC memory are reconverted into analog Y and 1.36 MHz C signals.

After D-A conversion, the frequency of the C signal is reconverted into 4.43 MHz by the carrier formed from the reference signal. A burst signal is added to the C signal and then the C signal is mixed with the Y signal. A sync signal is added to the mixed Y & C signal and the PAL composite signal is sent out as an output signal.



BVT-800PS (PAL)

4-1-2. Outline of BVT-800PS SECAM

In the SECAM model, the Y signal is processed in the same way as the PAL model. The C signal is processed in the following way:

In the COMP mode, the off tape C signal is reconverted into the SECAM frequency in the VTR, but in the DUB mode, the C signal is converted into the low frequency in the U-matic H VTR. The down converted C signal is reconverted into the SECAM frequency in the TBC so that the C signal becomes equivalent to the COMP mode C signal. This C signal is demodulated to the color difference signal DR′/DB′.

The demodulated DR′/DB′ signal is processed by A-D converter, 32-line memory, DOC and D-A converter and reconverted into DR′/DB′ signal. These processes are same as PAL.

The reconverted DR′/DB′ signal frequency-modulates the 4.406/4.250 MHz carrier and becomes a SECAM C signal. The SECAM C signal is mixed with the Y signal that is reconverted into analog signal. A sync signal is added to the mixed Y & C signal and the SECAM composite signal is sent out as an output signal.

4-2. OUTLINE OF PRINTED CIRCUIT BOARDS

Principal circuits of BVT-800PS are placed on the following three plug-in boards.

SG-67 (PAL) or SG-68 (SECAM) SYNC GENERATOR board
PR-40 PROCESSOR board
CK-11 CLOCK GENERATOR board

Apart from these, there are six other boards; IV-4A, DP-24A, CN-46A, PW-91A, CT-29 and the Mother-Board MB-35.

The SG-67 PAL SYNC GENERATOR board contains a reference sync generator and a heterodyne color circuit. The SG-68 SECAM SYNC GENERATOR board contains a reference sync generator and a color difference signal demodulator/modulator.

The PR-40 PROCESSOR board is A-D/D-A converters for Y and C signals.

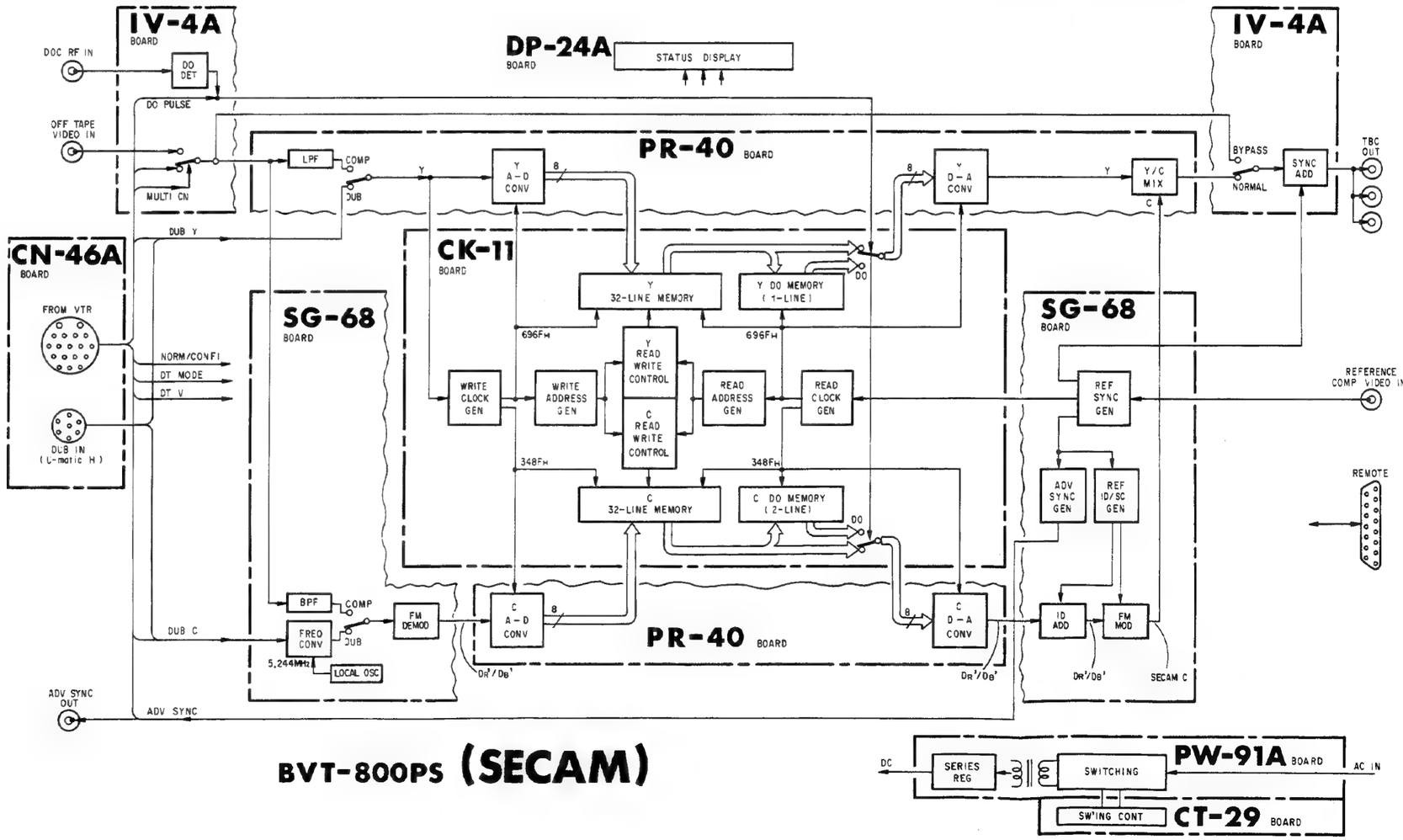
The CK-11 CLOCK GENERATOR board contains read and write clock generators, 32-line memories and DOCs for Y and C signals. The signals to control the timing of each part also are made on this board.

The IV-4A board contains the video signal input/output buffer and the dropout detection circuit. The output signal NORMAL/BYPASS switching and the addition of sync signal are performed on the IV-4A board.

The DP-24A board indicates the input level, PAL/SECAM mode, COMP/DUB mode, etc.

The CN-46A board is for 18-pin VTR connector and 7-pin DUB IN connector relay purpose.

The PW-91A board is a DC regulator; in this model, a switching regulator is used. The CT-29 board controls the PW-91A board switching.



SECTION 5
GENERAL INFORMATION FOR ALIGNMENT

5-1. INDEX OF ADJUSTMENT COMPONENTS

PR-40 Board

	Section
RV1; INPUT LEVEL Control	1-2-1,2-9-2, 6-3,12-1,16-1
RV2; CHROMA Level Control	1-2-1,2-9-3, 6-3
RV3; BLACK LEVEL Control	1-2-1,2-9-3, 6-3
RV4; VIDEO Level Control	1-2-1,2-9-3, 6-3
RV5; Y/C DELAY Control	1-2-1,2-9-3, 6-3

RV101	15-3	RV110	15-3
RV102	15-2	RV501	15-12
RV103	15-1	RV503	19-1
RV104	15-1	RV504	15-10
RV105	15-5	RV505	15-9
RV106	15-6	RV506	15-11
RV107	15-7	RV507	15-8
RV108	15-4	RV508	15-8
RV109	15-7	RV509	19-1

S1; COMP/DUB Select Switch	1-2-1,2-9-2, 6-3
S2; CHROMA Level PRESET Switch	1-2-1,2-9-3, 6-3
S3; BLACK LEVEL PRESET Switch	1-2-1,2-9-3, 6-3
S4; VIDEO Level PRESET Switch	1-2-1,2-9-3, 6-3
S5; Y/C DELAY PRESET Switch	1-2-1,2-9-3, 6-3
S6; LOCAL/REMOTE Select Switch	2-9-4,6-3
S101; DUB Mode Release Switch	2-9-2,6-3

CK-11 Board

	Section		Section
LV1	11-1	LV2	10-2

RV1; Video Phase Control	2-9-3,6-3, 18-1

RV2	9-1	RV4	10-3
RV3	10-3	RV5	10-1

S1; Y/C DELAY Switch	2-9-3,6-3
S2; Chroma SHIFT/INV Switch	2-9-3,6-3

IV-4A Board

	Section		Section
RV1	19-2	RV4	8-1
RV2	19-3	RV5	19-4
RV3	8-3	RV6	8-2

PW-91A Board

RV71	7-1-3	RV111	7-1-3
RV72	7-1-2	RV131	7-1-3
RV91	7-1-3	RV132	7-1-2
RV92	7-1-2	RV151	7-1-2

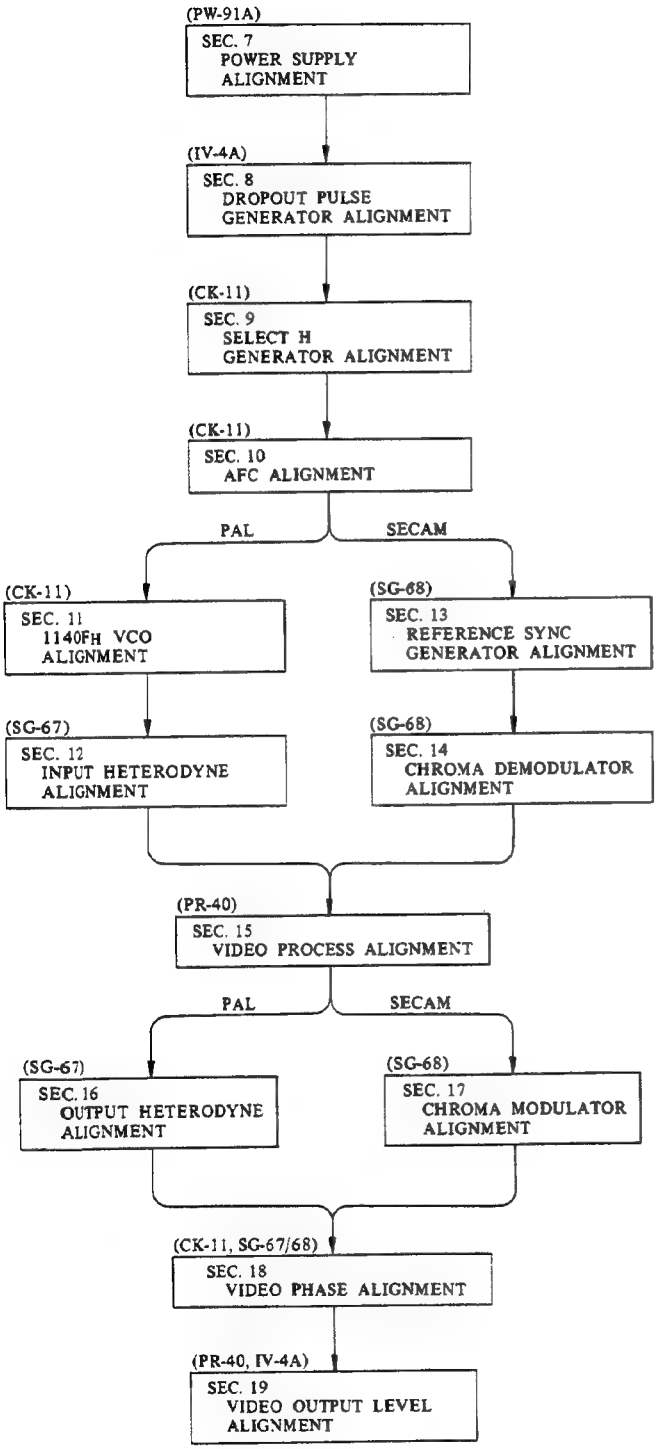
CT-29 Board

RV201	7-2
RV202	7-1-1

Connector Panel

SW1; 75-ohm ON/OFF Switch	1-2-2,2-9-5, 6-3
SW3; COMP/NON COMP Switch	1-2-2,2-9-5, 6-3

5-2. ALIGNMENT FLOW CHART



5-3. BOARD REPLACEMENT AND ADJUSTMENT

When the following circuit board has been replaced, the relative adjustments must be performed.

Board	Required Adjustment
SG-67	(1) 16-5. Burst Width & Level Adjustment (2) 18-1. Video Phase Adjustment (3) 18-2. Y/C Delay Adjustment (4) 19-1. Output Y Level & Chroma Level Adjustment
SG-68	(1) 14-7. Demodulator Output Level Adjustment (2) 17-6. Modulator Input Level Adjustment (3) 18-1. Video Phase Adjustment (4) 18-3. Y/C Delay Preset Adjustment (5) 19-1. Output Y Level & Chroma Level Adjustment
PR-40	(1) 19-1. Output Y Level & Chroma Level Adjustment
CK-11	(1) 18-1. Video Phase Adjustment (2) 18-2. Y/C Delay Adjustment (For PAL Model) (3) 18-3. Y/C Delay Preset Adjustment (For SECAM Model)
IV-4A	(1) 19-3. Normal Video Output Level Adjustment (2) 19-4. Video Output Sync Level Adjustment

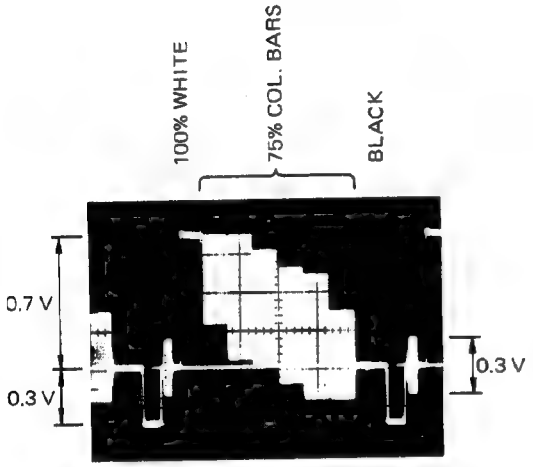
SECTION 6
PREPARATION FOR ALIGNMENT

6-1. TEST EQUIPMENT

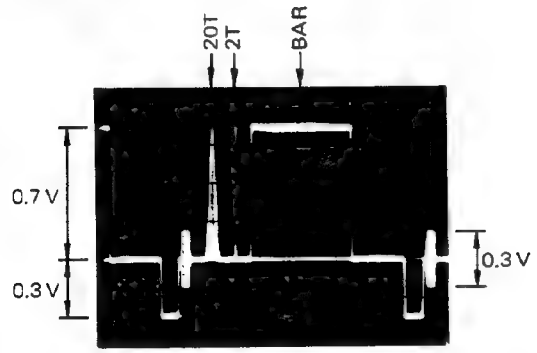
(1) PAL Test Signal Generator
TEKTRONIX Type 1411 or Equivalent

Test Signal Module	SYNC GENERATOR	SPG12
	COLOR BAR GEN.	TSG11
	PULSE & BAR GEN.	TSG15
	LINEARITY	TSG13
	SWEEP GEN.	TSG16

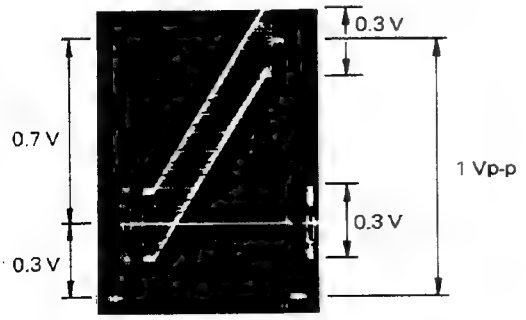
PAL Color Bars



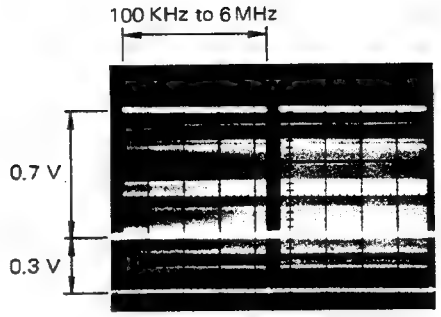
PAL Pulse & Bar



PAL Ramp Linearity

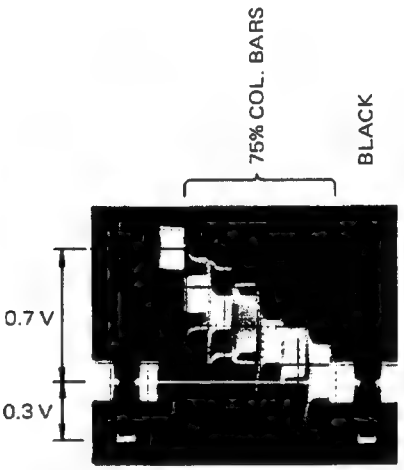


PAL Sweep



(2) SECAM Test Signal Generator
TEKTRONIX Type 143 or Equivalent

SECAM Color Bars



(3) Oscilloscope and Probe Adapter
Oscilloscope
Band Width: 200 MHz
TEKTRONIX 475 or Equivalent

Probe Adapter
Probe tip for grounding
TEKTRONIX Part No. 013-0085-00

(4) Waveform Monitor
TEKTRONIX 1485C or Equivalent
Used for the following alignments.
Section 18. Video Phase Alignment
Section 19. Video Output Level Alignment

(5) Vectorscope
TEKTRONIX 521A or Equivalent
Used for the following alignments.
Section 16. Output Heterodyne Alignment

(6) **Digital DC Voltmeter**
Effective digits; more than 4½ digits.
Accuracy; Less than 0.02% ± 1 count
Used for the following alignments.
Section 7. Power Supply Alignment
Section 13. Reference Sync Generator Alignment
Section 15. Video Process Alignment
Section 17. Chroma Modulator Alignment

(7) **DC Current Meter**
10A range
Used for Section 7. Power Supply Alignment

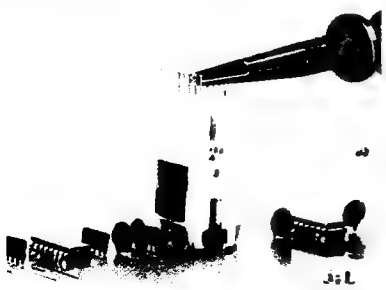
(8) **VTR**
SONY BVU-800P/S, 820P/S
Used for the following alignments.
Section 10. AFC Alignment
Section 11. 1140F_H VCO Alignment
Section 14. Chroma Demodulator Alignment
Section 15. Video Process Alignment
Section 16. Output Heterodyne Alignment

(9) **Standard Signal Generator**
Sine wave, 5 MHz
Used for Section 8. Dropout Pulse Generator Alignment

(10) **Frequency Counter**
Used for the following alignments.
Section 13. Reference Sync Generator Alignment
Section 14. Chroma Demodulator Alignment

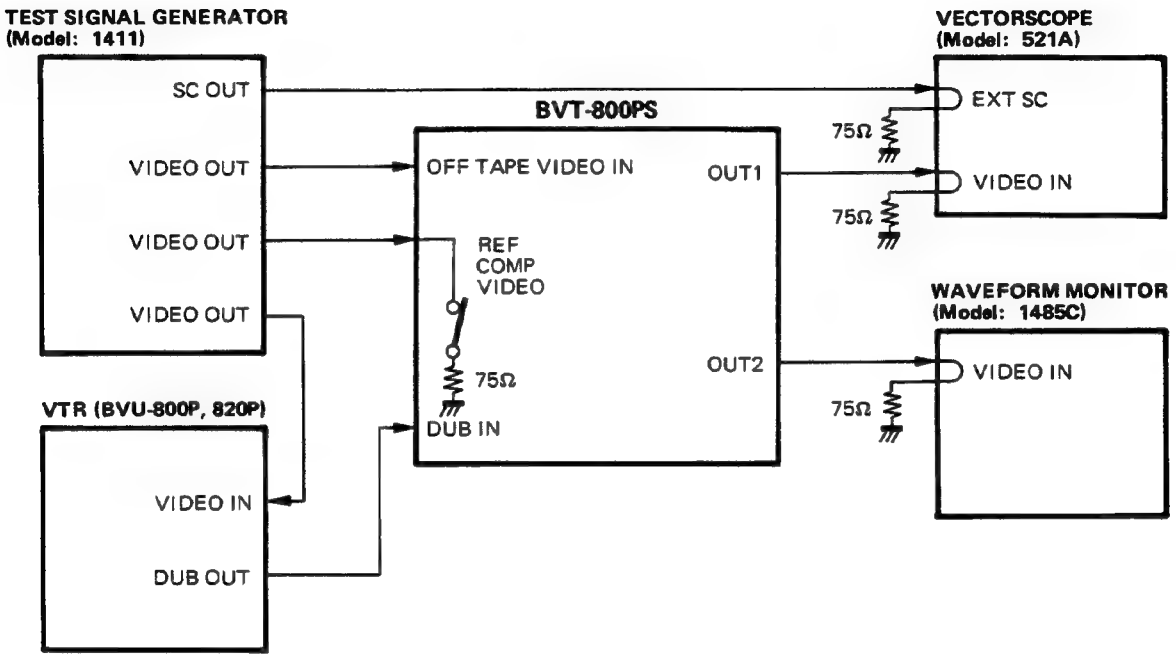
(11) **EB-9A Extension Board**
SONY Part No. A-6252-050-A
One EB-9A is supplied with BVT-800PS.

(12) **IC Test Clip**
Type TC-16 Sony Part No. J-6041-770-A
Type TC-20 Sony Part No. J-6041-780-A
Manufacturer;
AP PRODUCTS INCORPORATED
Box 697 72 Corwin Drive
Painesville, Ohio 44077, USA
TEL; 216-354-2101
When connecting the test probe to the terminal of DIP integrated circuit, these clips are convenient. Type TC-16 is for DIP 14-pin or 16-pin IC and Type TC-20 is for 18-pin or 20-pin IC.

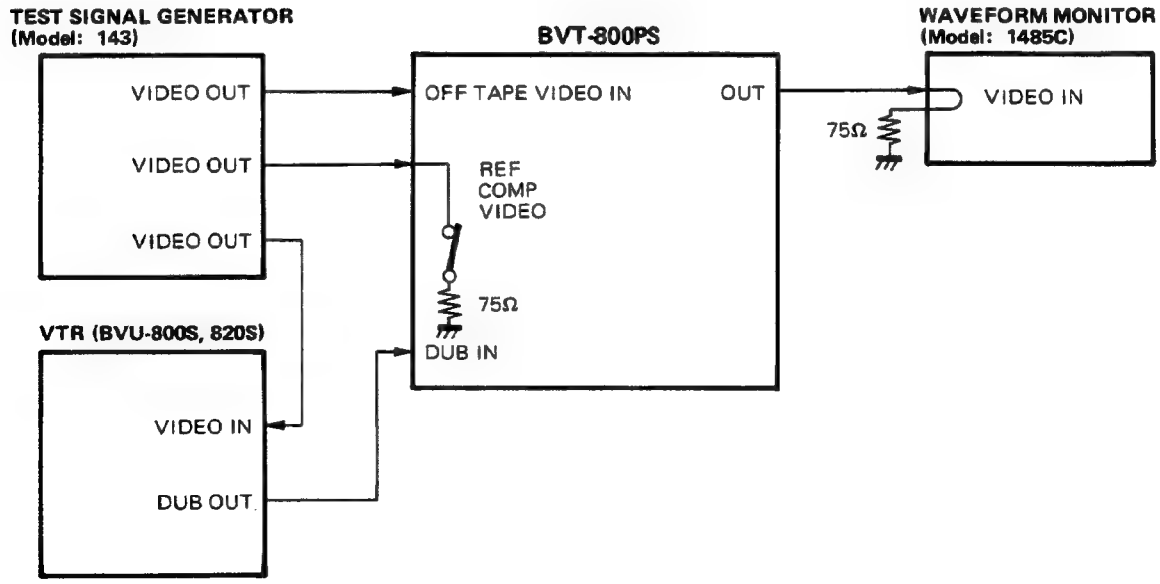


6-2. EQUIPMENT CONNECTION

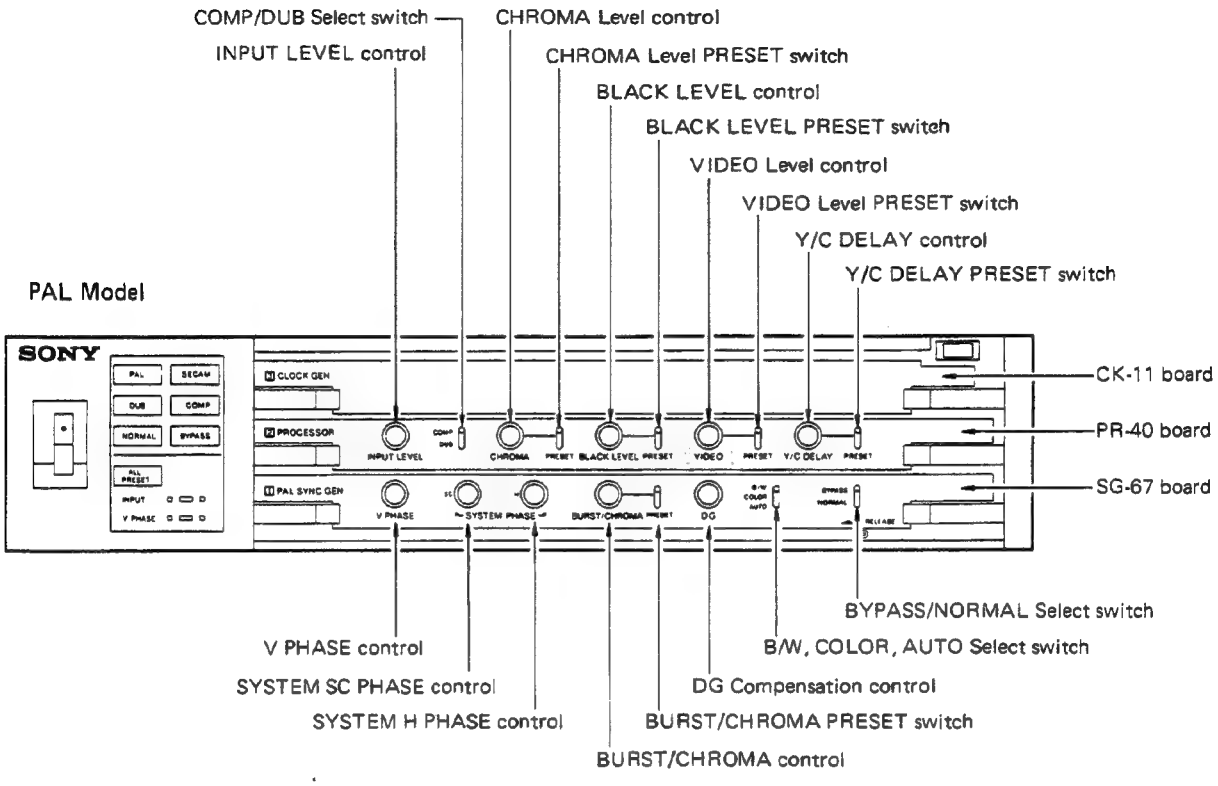
Connection 1.

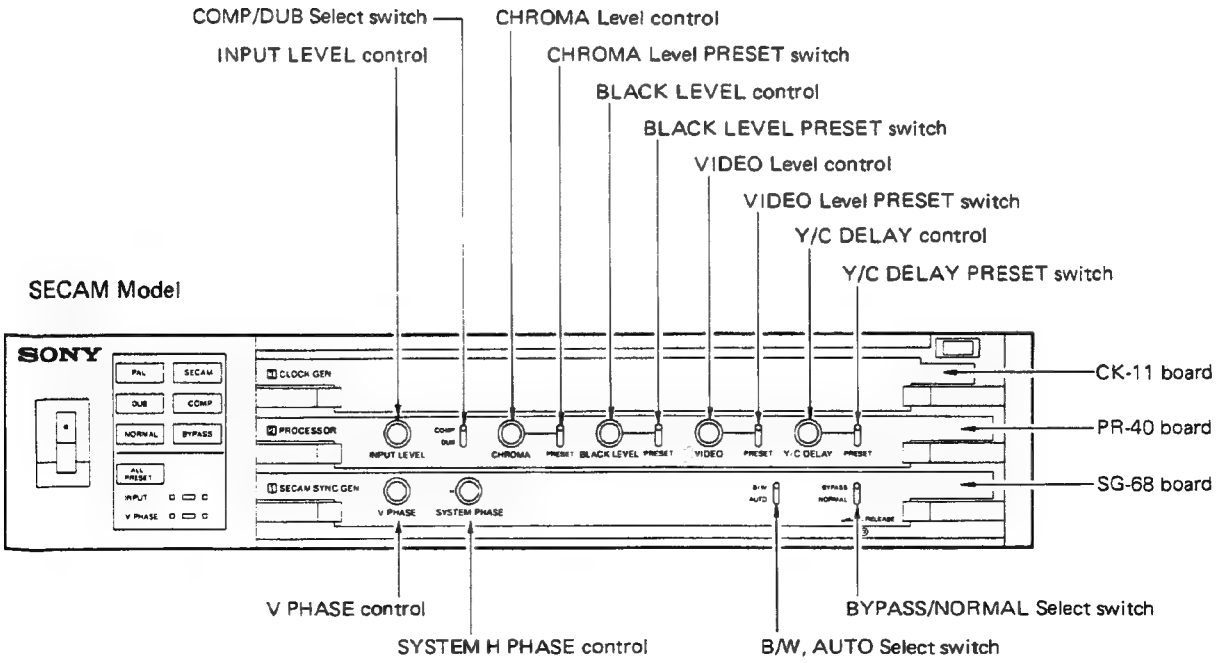


Connection 2.



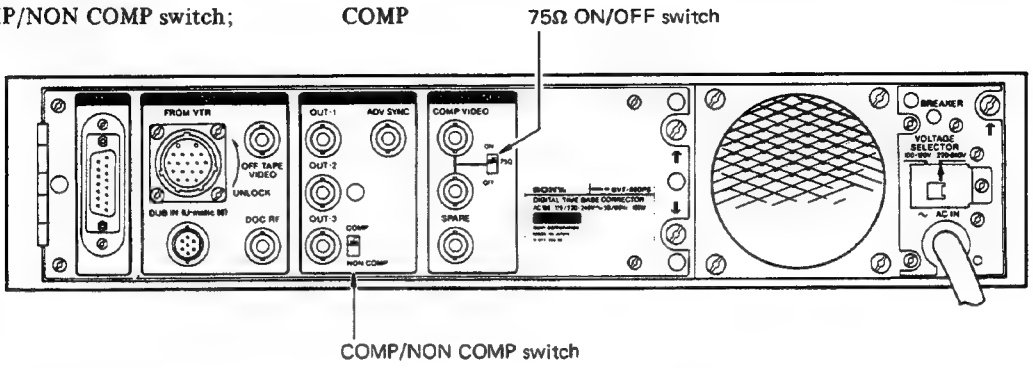
6-3. INITIAL SETTING OF SWITCHES & CONTROLS





Connector Panel

SW1, 75Ω ON/OFF switch; ON
SW3, COMP/NON COMP switch; COMP



SG-67 Board

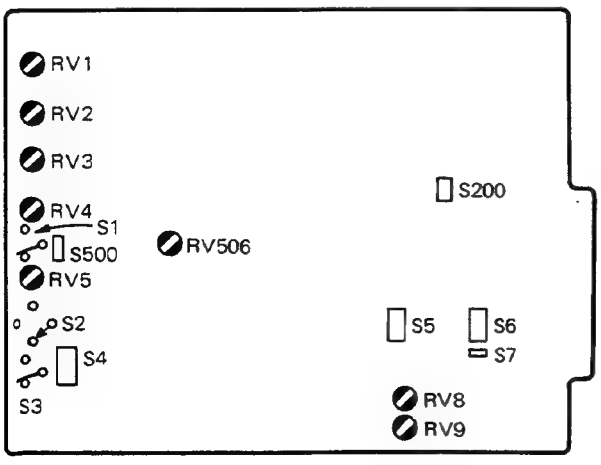
S1, BURST/CHROMA PRESET Switch; PRESET
S2, B/W, COLOR, AUTO Select Switch; AUTO
S3, BYPASS/NORMAL Select Switch; NORMAL
S4, Local/Remote Select Switch; Local
S5, S6, S7 } V Blanking Line Select Switch; All set to ON
S200, Chroma O/E Inertia Select Switch; OFF
S500, Burst ON/OFF Switch; OFF

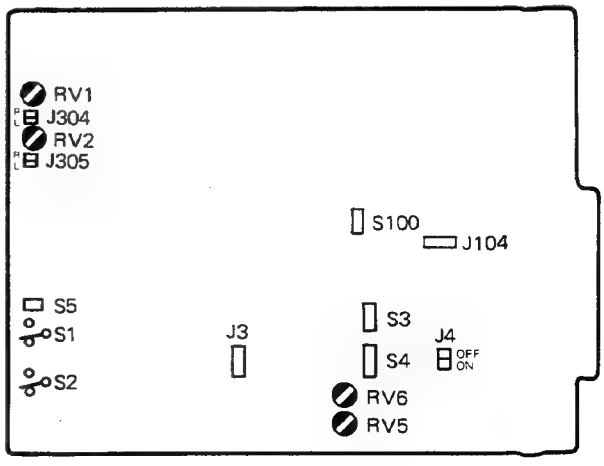
RV1, V PHASE Control;
When using the VTR, adjust so that the green lamp on the V PHASE indicator can light up. When not using the VTR, the position is free.
RV2, SYSTEM SC PHASE Control; Free
RV3, SYSTEM H PHASE Control; Free
RV4, BURST/CHROMA Control; Free
RV5, DG Compensation Control; Midrange
RV8, Front Porch Width Control; Free
RV9, Line Blanking Width Control; Free
RV506, Burst Width Adjustment Control; Free

SG-68 Board

S1, B/W, AUTO Select Switch; AUTO
S2, BYPASS/NORMAL Select Switch; NORMAL
S3, S4 } V Blanking Line Select Switch; All set to ON
S5, ID ON/OFF Switch; ON
S100, Chroma O/E Inertia Select Switch; OFF

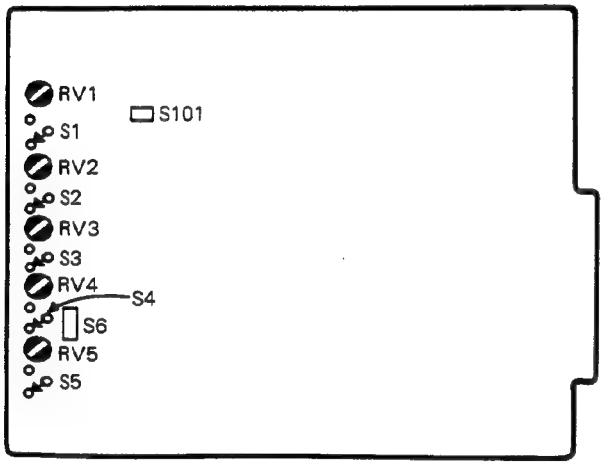
RV1, V PHASE Control;
When using the VTR, adjust so that the green lamp on the V PHASE indicator can light up. When not using the VTR, the position is free.
RV2, SYSTEM H PHASE Control; Free
RV5, Chrominance SC Blanking Width Control; Free
RV6, Line Blanking Width Control; Free
J3, D'R/D'B INT/EXT Select Jumper; INT
J4, Chrominance SC Blanking ON/OFF Jumper; OFF
J104, NOR/ADJ Select Jumper; NOR
J304, Local/Remote Select Jumper; Local
J305, Local/Remote Select Jumper; Local





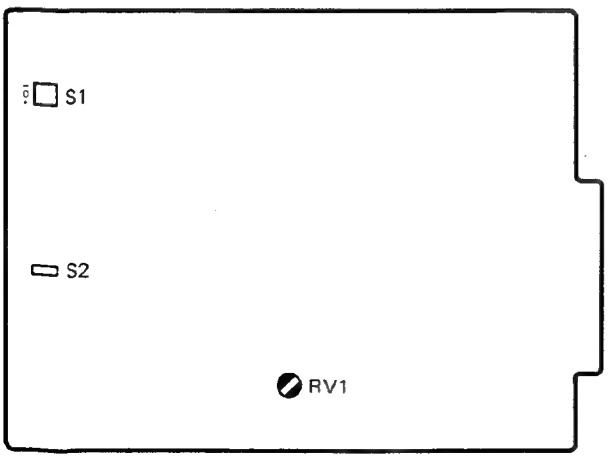
PR-40 Board

S1, COMP/DUB Select Switch;	Free
S2, CHROMA Level PRESET Switch;	PRESET
S3, BLACK LEVEL PRESET Switch;	PRESET
S4, VIDEO Level PRESET Switch;	PRESET
S5, Y/C DELAY PRESET Switch;	PRESET
S6, LOCAL/REMOTE Select Switch;	LOCAL
S101, DUB Mode Release Switch;	ON
RV1, INPUT LEVEL Control;	
Adjust so that the green lamp on the INPUT indicator can light up.	
RV2, CHROMA Level Control;	Free
RV3, BLACK LEVEL Control;	Free
RV4, VIDEO Level Control;	Free
RV5, Y/C DELAY Control;	Free



CK-11 Board

S1, Y/C DELAY Switch;	"0" position
S2, Chroma SHIFT/INV Switch;	SHIFT
RV1, Video Phase Control;	Free



SECTION 7
POWER SUPPLY ALIGNMENT

CAUTION
If the output voltage of the regulated power supply is out of specifications, the BVT-800PS may not operate properly. If necessary, perform the following adjustments.

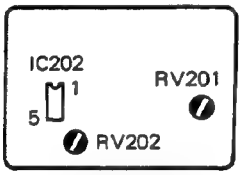
7-1. POWER SUPPLY ADJUSTMENT WITHOUT LOAD

CAUTION
Remove the following circuit boards from the MB-35 board before performing each power supply adjustment.
1) PR-40 Board (Remove the board from the MB-35 board.)
2) CK-11 Board (Remove the board from the MB-35 board.)
3) IV-4A Board (Remove the CN22 connector.)
4) DP-24A Board (Remove the CN6 connector on the MB-35 board.)

7-1-1. Switching Pulse Duty Adjustment without Load

Equipment; Digital DC Voltmeter

Adjustment
CT-29 Board
IC202 pin 1 = +5.00±0.05 Vdc
RV202

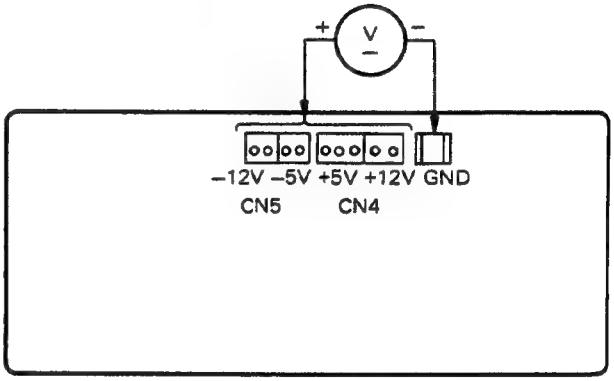


CT-29 Board
— solder side —

7-1-2. Voltage Adjustment without Load

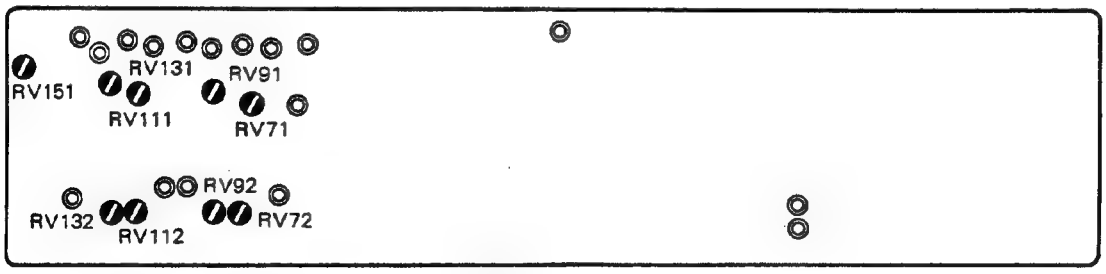
Equipment; Digital DC Voltmeter

Caution
Insert the probe of the DC voltmeter into the terminal pin of the CN4 or CN5 connector and ground the GND tab.



MB-35 Board — solder side —

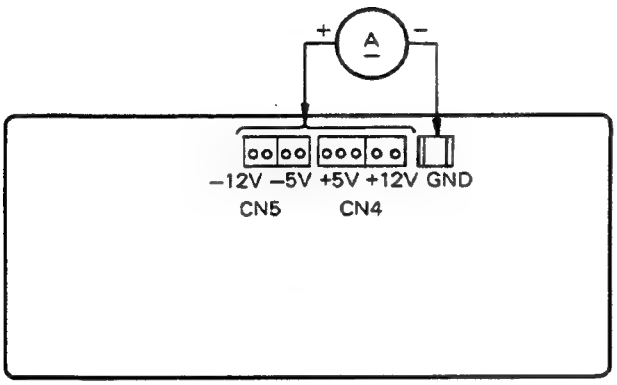
Step 1. +12 V Adjustment
MB-35 Board: CN4 pin 1 or 2 = +12.0±0.1 Vdc
PW-91A Board: RV92
Step 2. +5 V Adjustment
MB-35 Board: CN4 pin 3, 4 or 5 = +5.00±0.05 Vdc
PW-91A Board: RV72
Step 3. −5 V Adjustment
MB-35 Board: CN5 pin 1 or 2 = −5.00±0.05 Vdc
PW-91A Board: RV151
Step 4. −12 V Adjustment
MB-35 Board: CN5 pin 5 or 6 = −12.0±0.1 Vdc
PW-91A Board: RV132



PW-91A Board — component side —

7-1-3. Short Current Adjustment without Load

Equipment; DC Current Meter



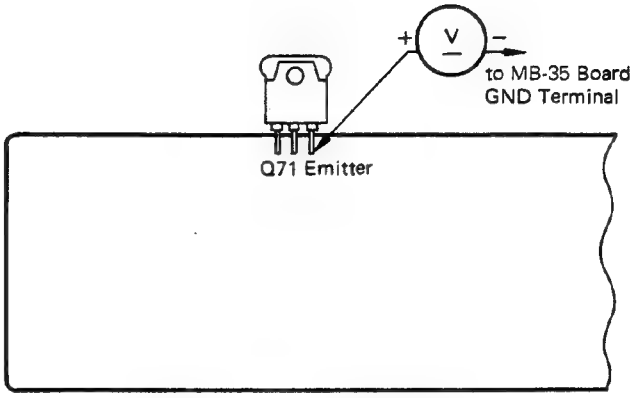
MB-35 Board — solder side —

Step 1. +12 V Adjustment
MB-35 Board: CN4 pin 1 or 2 = 1.20±0.12A
PW-91A Board: RV91
Step 2. +5 V Adjustment
MB-35 Board: CN4 pin 3, 4, or 5 = 2.0±0.2A
PW-91A Board: RV71
Step 3. −5 V Adjustment
MB-35 Board: CN5 pin 1 or 2 = 0.80±0.08A
PW-91A Board: RV111
Step 4. −12 V Adjustment
MB-35 Board: CN5 pin 5 or 6 = 0.60±0.06A
PW-91A Board: RV131

CAUTION
Connect each circuit board to the MB-35 board after performing the above power supply adjustment.

7-2. REGULATOR OUTPUT VOLTAGE ADJUSTMENT WITH LOAD

Equipment; Digital DC Voltmeter



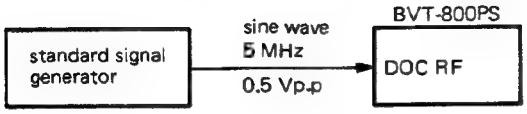
PW-91A Board — component side —

Adjustment
PW-91A Board: Q71 emitter = +6.00±0.05 Vdc
CT-29 Board: RV201

SECTION 8
DROPOUT PULSE GENERATOR ALIGNMENT

8-1. RF AGC LEVEL ADJUSTMENT

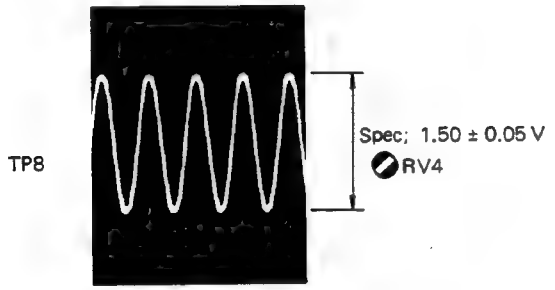
Connection;



Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3.

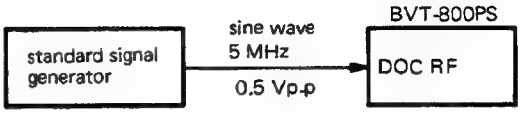
Step 1. Setting of Signal Generator
Frequency; 5 MHz
Amplitude; 0.5 Vp-p
(Measured at TP7 on the IV-4A board.)

Step 2. Adjustment
IV-4A Board



8-2. DOC KILLER ADJUSTMENT

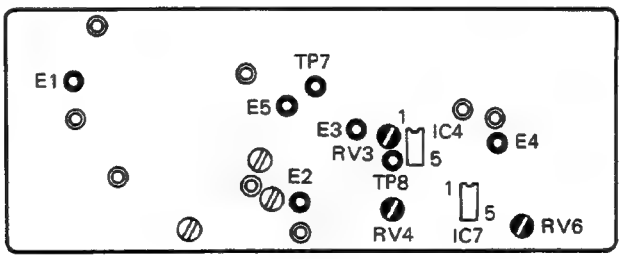
Connection;



Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3.

Step 1. Setting of Signal Generator
Frequency; 5 MHz
Amplitude; 0.5 Vp-p
(Measured at TP7 on the IV-4A board.)

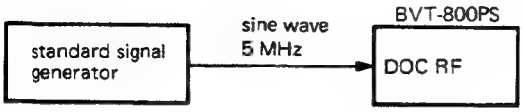
Step 2. Adjustment
IV-4A Board
Spec; IC7 pin 1 < 0 V
IC7 pin 6 = Voltage at IC7 pin 1 x 1.8 Vdc
RV6



IV-4A Board — component side —

8-3. DO LEVEL SENSITIVITY ADJUSTMENT

Connection;



Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3.

Step 1. Setting of Signal Generator
Frequency; 5 MHz
Amplitude; 0.5 Vp-p
(Measured at TP8 on the IV-4A board.)

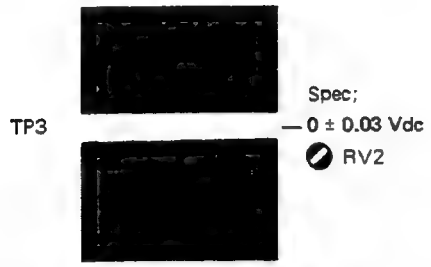
Step 2. Adjustment
Turn RV3 on the IV-4A board fully clockwise. IC4 pin 7 shows HIGH level (approx. +4 Vdc). Next, turning RV3 counterclockwise slowly, the negative pulse appears as shown below. Stop RV3 immediately after this pulse appears.

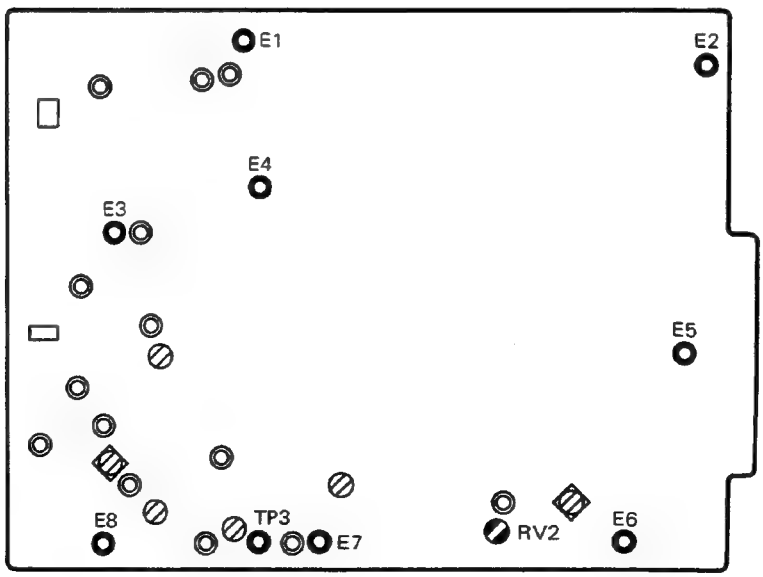
SECTION 9
SELECT H GENERATOR ALIGNMENT

9-1. SELECT H GENERATOR ADJUSTMENT

Connection; Same as Section 6-2, Connection 1 or 2
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3
Input Signal (OFF TAPE VIDEO IN);
Color Bars (PAL or SECAM)

Adjustment
CK-11 Board





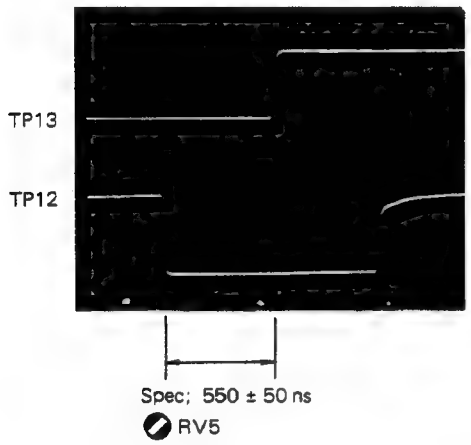
CK-11 Board — component side —

SECTION 10
AFC ALIGNMENT

10-1. SAWTOOTH WAVE SLOPE ADJUSTMENT

Connection; Same as Section 6-2, Connection 1 or 2
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3
Input Signal (OFF TAPE VIDEO IN);
Color Bars (PAL or SECAM)

Adjustment
CK-11 Board

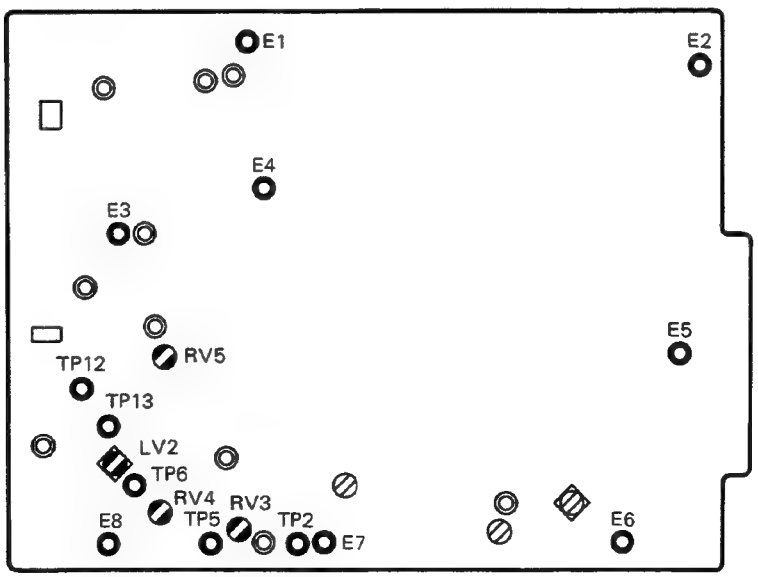


10-2. NARROW RANGE VCO ADJUSTMENT

Connection; Same as Section 6-2, Connection 1 or 2
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3
Input Signal (OFF TAPE VIDEO IN);
Color Bars (PAL or SECAM)

Step 1. Adjustment
CK-11 Board
Spec; TP6 = –4.0 ± 0.2 Vdc
LV2

Step 2. Perform "10-1. Sawtooth Wave Slope Adjustment".



CK-11 Board – component side –

10-3. WIDE RANGE VCO ADJUSTMENT

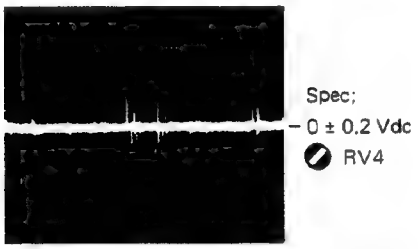
Connection; Same as Section 6-2, Connection 1 or 2
VTR Mode; PLAY → REW
Equipment; Oscilloscope
Input; DC
Switches & Controls setting;
Same as Section 6-3
Input Signal (OFF TAPE VIDEO IN);
Color Bars (PAL or SECAM)

Step 1. Offset Adjustment (PLAY mode)

Set the VTR to PLAY mode.

CK-11 Board

Short-circuit the TP2 and GND.

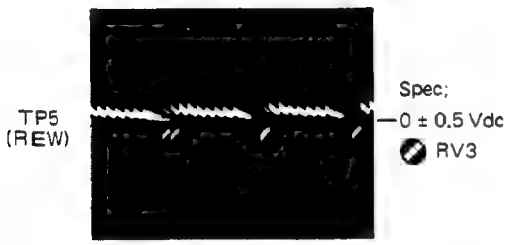


Remove the short circuit between the TP2 and GND.

Step 2. Gain Adjustment (REW mode)

Set the VTR to the REW mode and adjust RV3 to obtain the following value.

CK-11 Board



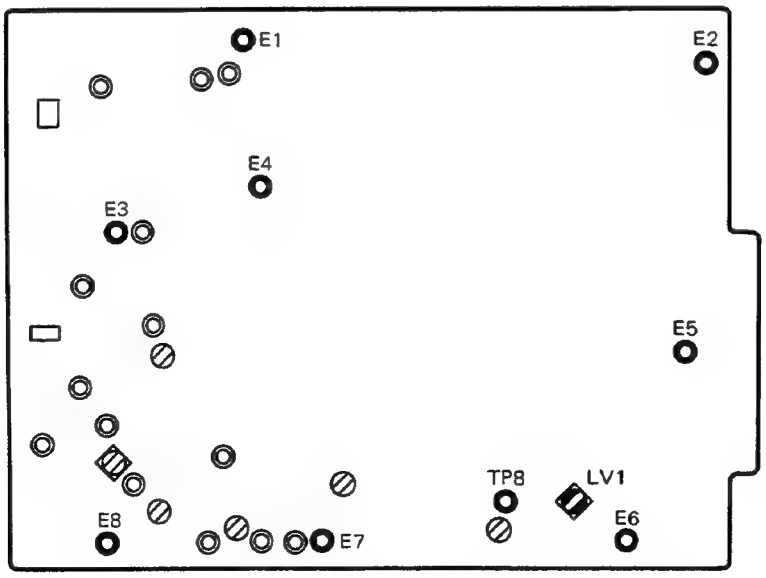
SECTION 11
1140F_H VCO ALIGNMENT (For PAL Model)

11-1. 1140F_H VCO ADJUSTMENT

Connection; Same as Section 6-2, Connection 1 or 2
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; DUB
Input Signal (DUB IN);
Color Bars (PAL or SECAM)

Adjustment

Set the VTR to EE mode.
CK-11 Board
Spec; TP8 = −0.5 ± 0.2 Vdc
LV1



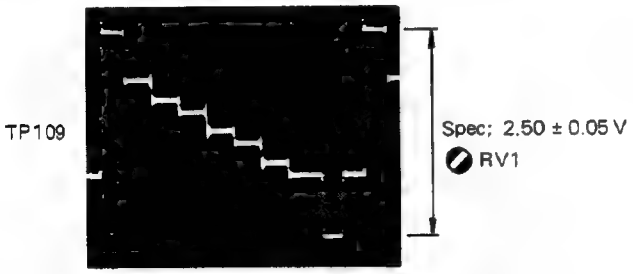
CK-11 Board — component side —

SECTION 12
INPUT HETERODYNE ALIGNMENT (For PAL Model)

12-1. INPUT LEVEL CALIBRATION

Connection; Same as Section 6-2, Connection 1
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
PAL Color Bars

Adjustment
PR-40 Board

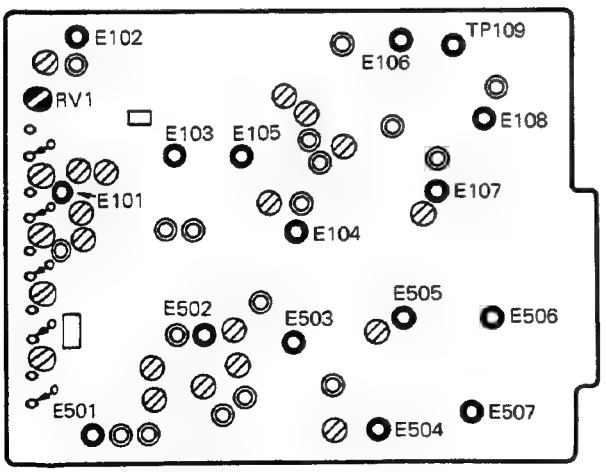


12-2. BURST DETECTOR ADJUSTMENT

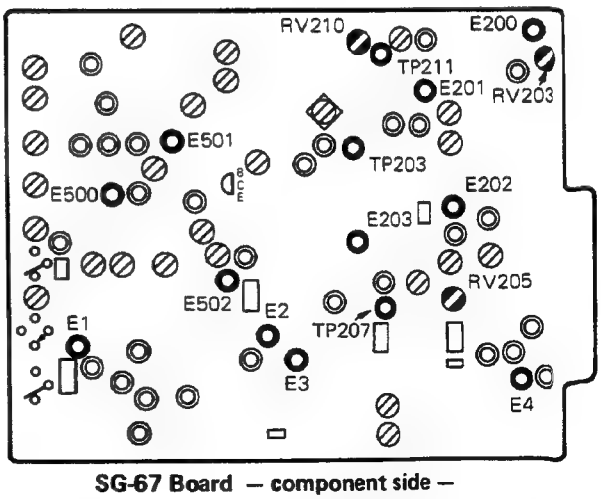
Connection; Same as Section 6-2, Connection 1
Equipment; Oscilloscope
Input; DC
Trigger; HD (test signal generator)
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
PAL Color Bars

Adjustment
SG-67 Board

Caution; This adjustment is applicable only to SG-67 Board with Board No.1-608-858-13 & up.



PR-40 Board — component side —

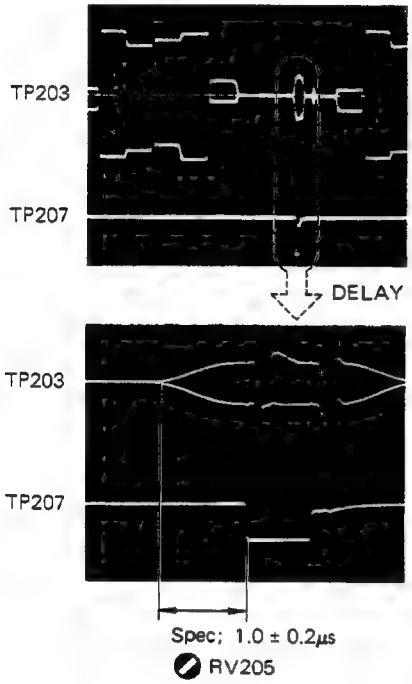


SG-67 Board — component side —

12-3. APC ADJUSTMENT

Connection; Same as Section 6-2, Connection 1
Equipment; Oscilloscope
Input; DC
Trigger; HD (test signal generator)
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
PAL Color Bars

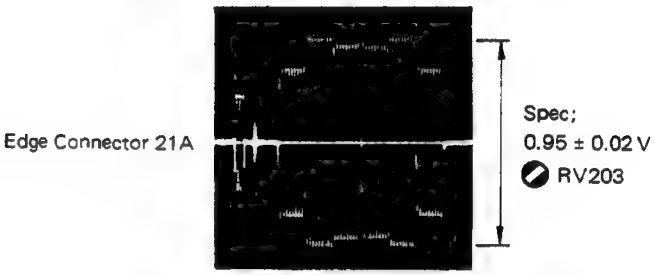
Adjustment
SG-67 Board



12-4. WRITE CHROMA LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1
Equipment; Oscilloscope
Input; DC
Trigger; HD (test signal generator)
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
PAL Color Bars

Adjustment
SG-67 Board



SECTION 13
REFERENCE SYNC GENERATOR ALIGNMENT (For SECAM Model)

13-1. D'R/D'B DETECTOR ADJUSTMENT

Connection; Same as Section 6-2, Connection 2
Equipment; Digital DC Voltmeter
Switches & Controls Setting;
Same as Section 6-3

Step 1. Turn off the SUBCARRIER AMPLITUDE switch of the Model 143 Test Signal Generator.

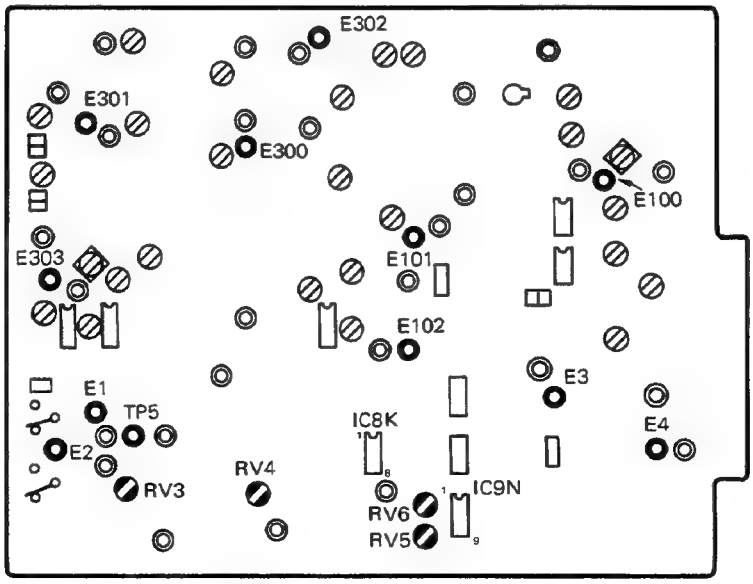
Step 2. **Adjustment**
SG-68 Board
Spec; TP5 = 100 ± 1 mVdc
RV3

Step 3. Turn on the SUBCARRIER AMPLITUDE switch of the Test Signal Generator.

13-2. INTERNAL REFERENCE FREQUENCY ADJUSTMENT

Connection; Same as Section 6-2, Connection 2 except for the following.
Remove the REF COMP VIDEO IN signal.
Equipment; Frequency Counter
Switches & Controls Setting;
Same as Section 6-3.

Adjustment
SG-68 Board
Spec; IC8K pin 5 = 14,187,500 ± 100 Hz
RV4

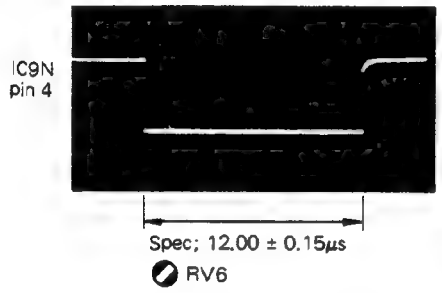


SG-68 Board — component side —

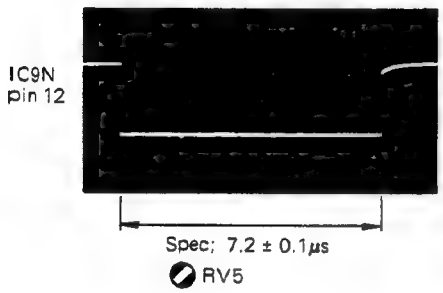
13-3. BLANKING GENERATOR ADJUSTMENT

Connection; Same as Section 6-2, Connection 2
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3
Input Signal (OFF TAPE VIDEO IN);
SECAM Color Bars

Step 1. Y Blanking Adjustment
SG-68 Board



Step 2. C Blanking Adjustment
SG-68 Board



SECTION 14
CHROMA DEMODULATOR ALIGNMENT (For SECAM Model)

14-1. FREQUENCY CONVERTER ADJUSTMENT

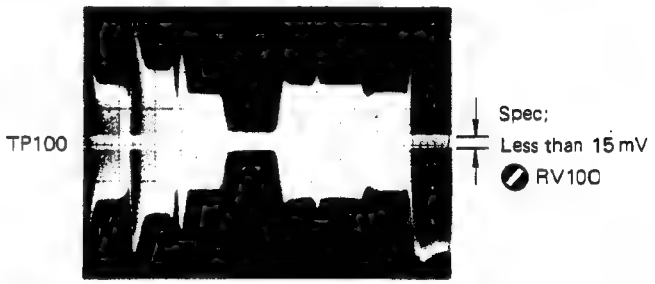
Connection; Same as Section 6-2, Connection 2
Equipment; Frequency Counter
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; DUB
Input Signal (DUB IN);
SECAM Color Bars

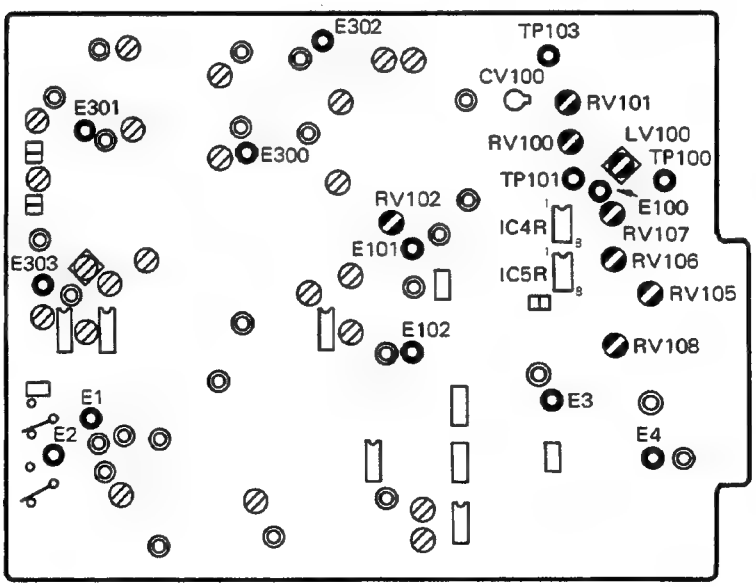
Adjustment
SG-68 Board
Spec; TP103 = 5,244,140 ± 50 Hz
CV100

14-2. CARRIER NULL ADJUSTMENT

Connection; Same as Section 6-2, Connection 2
Equipment; Oscilloscope
Input; DC
Trigger; 7.8 KHz (test signal generator)
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; DUB
Input Signal (DUB IN);
SECAM Color Bars

Adjustment
SG-68 Board



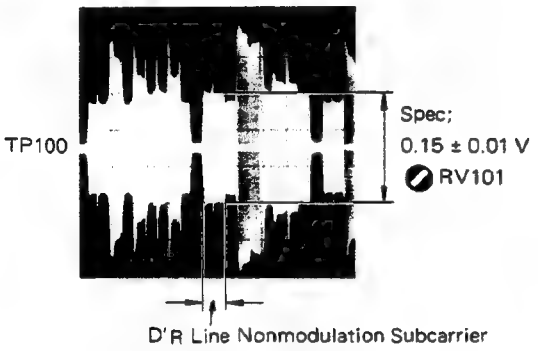


SG-68 Board — component side —

14-3. DUB CHROMA LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 2
Equipment; Oscilloscopeunter
Input; DC
Trigger; 7.8 KHz (test signal generator)
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; DUB
Input Signal (DUB IN);
SECAM Color Bars

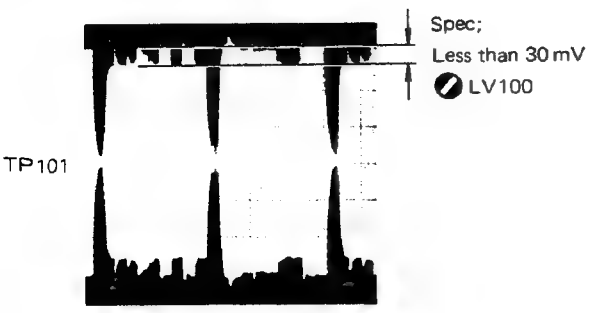
Adjustment
SG-68 Board



14-4. BELL FILTER ADJUSTMENT

Connection; Same as Section 6-2, Connection 2
Equipment; Oscilloscope
Input; DC
Trigger; 7.8 KHz (test signal generator)
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
SECAM Color Bars

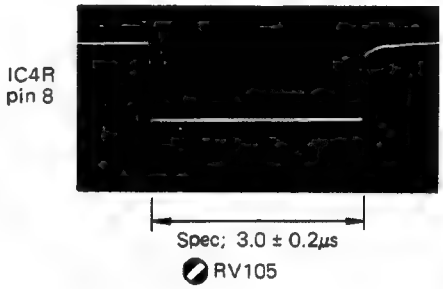
Adjustment
SG-68 Board



14-5. PILOT INSERT WIDTH ADJUSTMENT

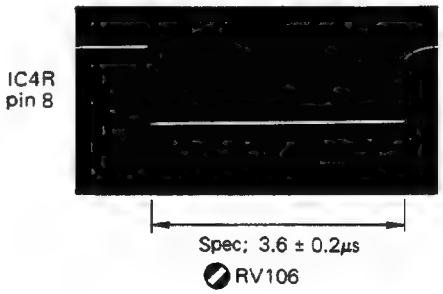
Connection; Same as Section 6-2, Connection 2
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
SECAM Color Bars

Step 1. Adjustment
SG-68 Board



Step 2. Input the SECAM color bars to the DUB IN connector and set the PR-40 board S1, COMP/DUB switch to DUB.

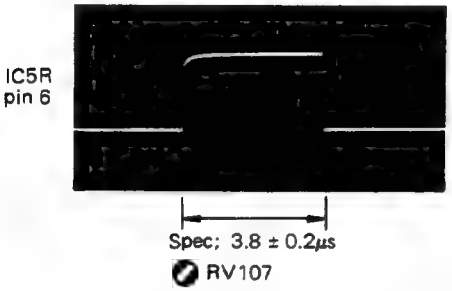
Step 3. Adjustment
SG-68 Board



14-6. WRITE O/E GENERATOR ADJUSTMENT

Connection; Same as Section 6-2, Connection 2
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
SECAM Color Bars

Step 1. Adjustment
SG-68 Board



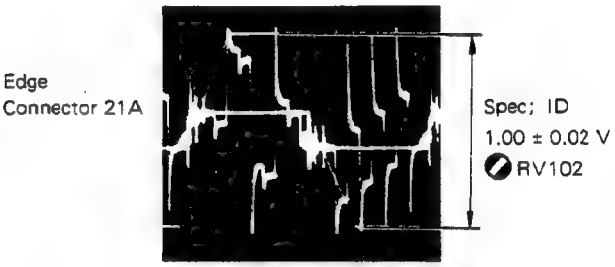
Step 2. Input the SECAM color bars to the DUB IN connector and set the PR-40 board S1, COMP/DUB switch to DUB.

Step 3. Adjustment
SG-68 Board

14-7. DEMODULATOR OUTPUT LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 2
Equipment; Oscilloscope
Input; DC
Trigger; 7.8 KHz (test signal generator)
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
SECAM Color Bars

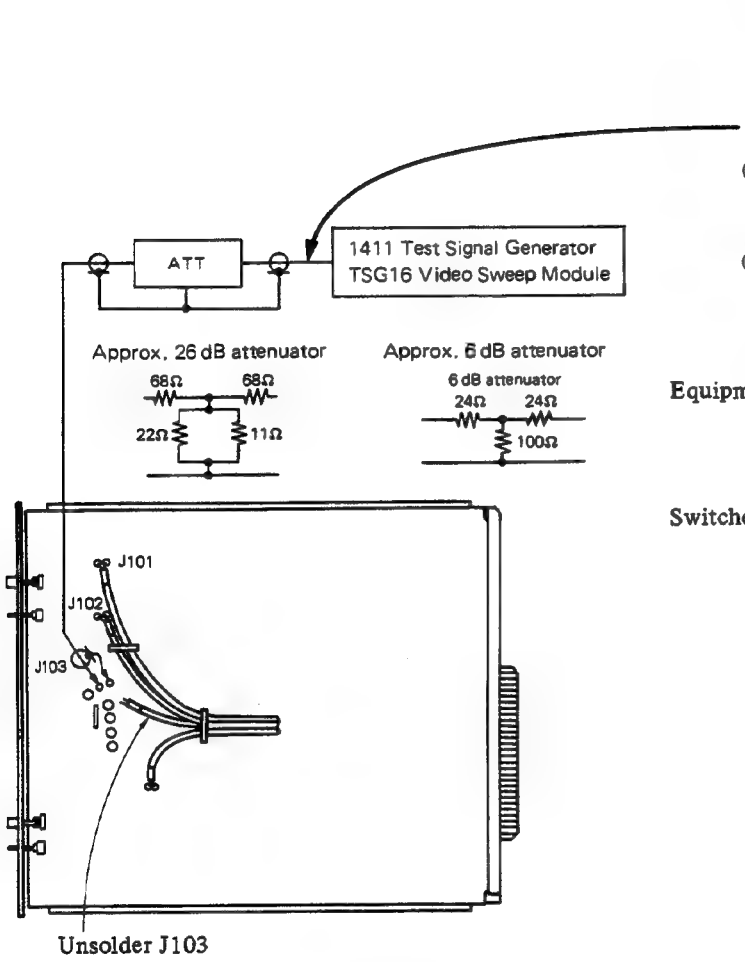
Step 1. Adjustment
SG-68 Board



SECTION 15
VIDEO PROCESS ALIGNMENT

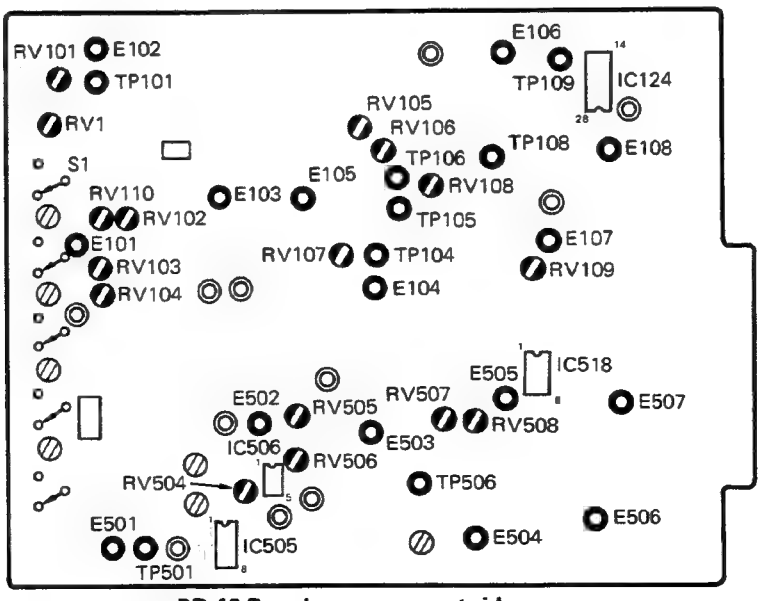
15-1. NOISE CANCELER ADJUSTMENT 1

Connection; Composite sweep signal



Equipment; Oscilloscope
Input; AC
Trigger; VD (test signal generator)
Approx. 6 dB and 26 dB attenuators

Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; DUB



PR-40 Board — component side —

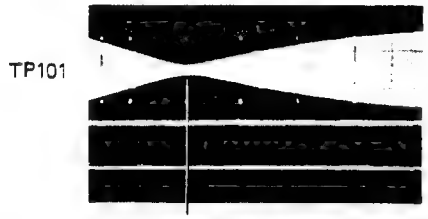
Step 1. Unsolder the J103 jumper leads from the PR-40 board.

Step 2. Supply a sweep signal through approx. 26 dB attenuator to J103 lands.

Step 3. Turn PR-40 board ◐ RV104 fully counterclockwise.

Step 4. Noise Canceler Adjustment

PR-40 Board



1.5 MHz (dip point)

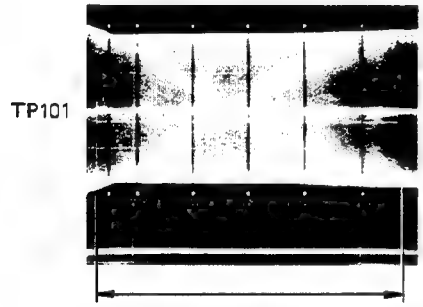
Spec; Minimize the dip point level.

◐ RV103

Step 5. Change the attenuator to approx. 6 dB.

Step 6. Noise Canceler Low-range Compensator Adjustment

PR-40 Board



Spec; The frequency response should be flat.

◐ RV104

Step 7. Remove the attenuator and connect J103 in its place on the PR-40 board.

15-2. NOISE CANCELER ADJUSTMENT 2

Connection; Same as Section 6-2, Connection 1

Equipment; Oscilloscope

Input; DC

Trigger; HD (test signal generator)

Switches & Controls Setting;

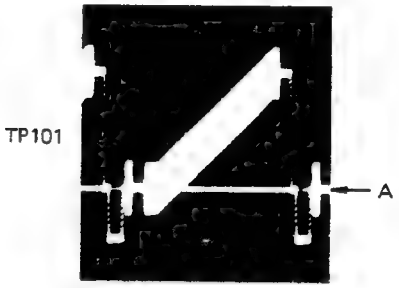
Same as Section 6-3 except the following.

PR-40 Board S1, COMP/DUB Switch; COMP

Input Signal; Lamp linearity 1 Vp-p

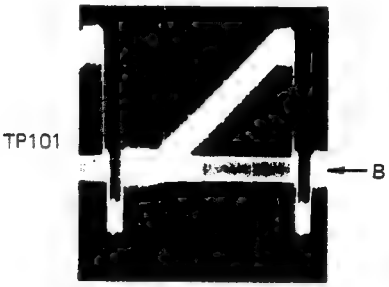
Step 1. Memorize "A" level shown below.

PR-40 Board



Step 2. Set the PR-40 board S1, COMP/DUB switch to DUB.

PR-40 Board



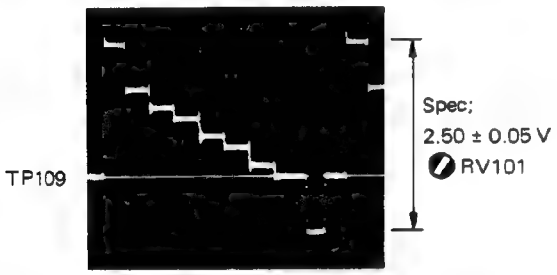
Spec; B (in step 2) = A (in step 1)

◐ RV102

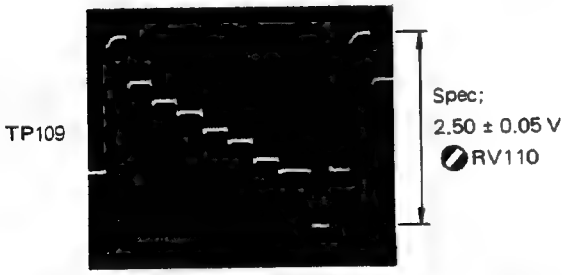
15-3. VIDEO LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1 or 2
Equipment; Oscilloscope
Input; DC
Trigger; HD (test signal generator)
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
Color Bars (PAL or SECAM)

Step 1. Match the dot mark on the INPUT LEVEL control (PR-40 board ⊘ RV1) to the center mark on the BVT-800PS front panel.
Step 2. Video Level Adjustment
PR-40 Board



Caution; The following steps should be performed only for the PR-40 board with Board No.1-607-857-12 and up.
Step 3. Input the color bars to the DUB IN connector and set the S1, COMP/DUB switch to DUB.
Step 4. DUB-Y Level Adjustment
PR-40 Board



15-4. A/D CONVERTER REFERENCE VOLTAGE ADJUSTMENT

Equipment; Digital DC Voltmeter
Switches & Controls Setting;
Same as Section 6-3

Adjustment
PR-40 Board
Spec; IC124 pin 28 = −1.98 to −2.00 Vdc
⊘ RV108

15-5. INPUT LEVEL INDICATOR CALIBRATION

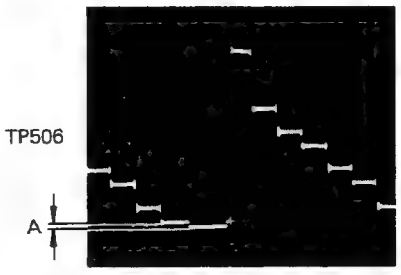
Equipment; Digital DC Voltmeter
Switches & Controls Setting;
Same as Section 6-3.

Adjustment
PR-40 Board
Spec; Voltage between TP105 (+) and TP106 (ground) = 112 ± 5 mV
⊘ RV105

15-6. Y-PEDESTAL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1 or 2
Equipment; Oscilloscope
Input; DC
Trigger; HD (test signal generator)
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
Color Bars (PAL or SECAM)

Adjustment
PR-40 Board



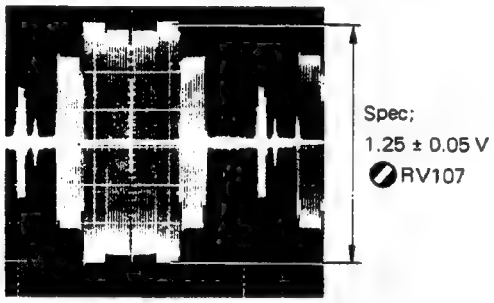
Spec; A = 0
⊘ RV106

15-7. WRITE CHROMA LEVEL & WRITE CHROMA PEDESTAL LEVEL ADJUSTMENT

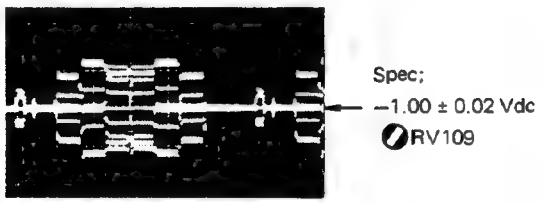
Connection; Same as Section 6-2, Connection 1 or 2
Equipment; Oscilloscope
Input; DC
Trigger; HD (For PAL, test signal generator)
7.8 KHz (For SECAM, test signal generator)
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
Color Bars (PAL or SECAM)

For PAL Model

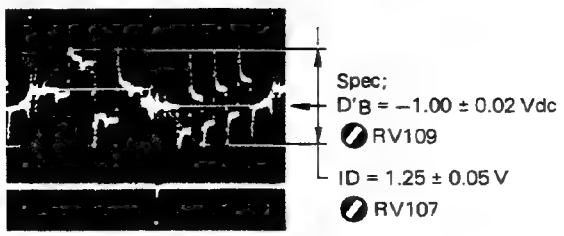
Step 1. Write Chroma Level Adjustment
PR-40 Board



Step 2. Pedestal Level Adjustment
PR-40 Board



For SECAM Model
Adjustment
PR-40 Board



15-8. Y/C DELAY CONTROL CALIBRATION

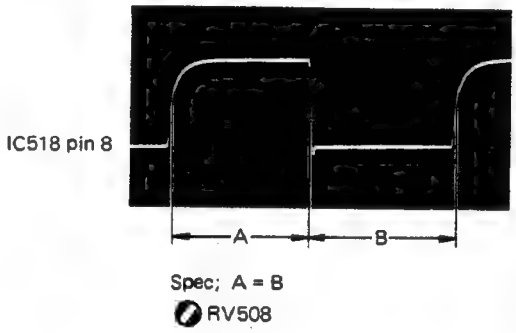
Connection; Same as Section 6-2, Connection 1 or 2
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3
Input Signal (OFF TAPE VIDEO IN);
Color Bars (PAL or SECAM)

PR-40 Board (1-608-857-11, 12 & 13)

Step 1. Make sure that the following controls are in the midrange.
SG-67 board RV208, RV209
SG-68 board RV103, RV104

Step 2. Set the PR-40 board S1, COMP/DUB switch to DUB.

Step 3. Adjustment
PR-40 Board



Caution; The following steps are applicable only up to PR-40 board with Board No. 1-608-857-12.

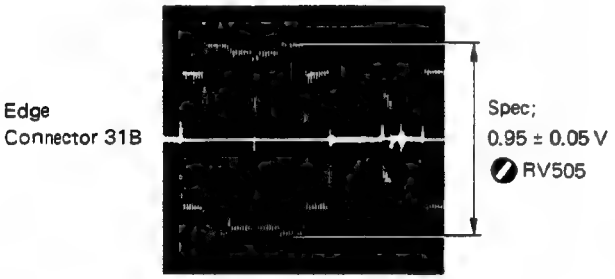
Step 4. Set the PR-40 board S1, COMP/DUB switch to COMP.

Step 5. Adjustment
PR-40 Board IC518 pin 8: A = B (Refer to step 3.)
RV507

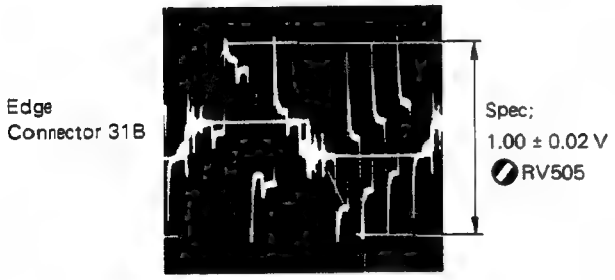
15-9. D/A CHROMA LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1 or 2
Equipment; Oscilloscope
Input; DC
Trigger; HD (For PAL, test signal generator)
7.8 KHz (For SECAM, test signal generator)
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
Color Bars (PAL or SECAM)

Adjustment
For PAL Model
PR-40 Board



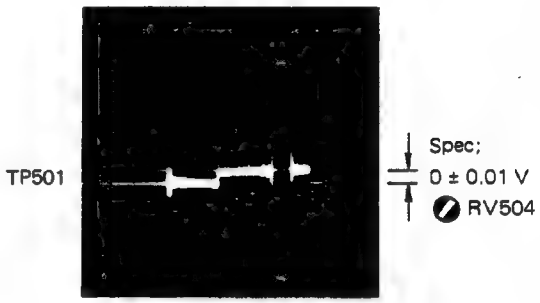
For SECAM Model
PR-40 Board



15-10. BLACK LEVEL CONTROL CALIBRATION

Connection; Same as Section 6-2, Connection 1 or 2
Equipment; Oscilloscope
Input; DC
Trigger; HD (test signal generator)
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
Color Bars (PAL or SECAM)

Adjustment
PR-40 Board



15-11. DG COMPENSATION CONTROL CALIBRATION

Connection; Same as Section 6-2, Connection 1 or 2
Equipment; Oscilloscope
Input; DC
Trigger; HD (test signal generator)
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
Color Bars (PAL or SECAM)

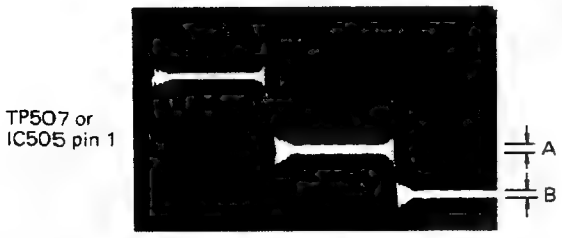
Step 1. For PAL Model
Match the dot mark on the DG compensation control (SG-67 board ⊘ RV5) to the center mark on the BVT-800PS front panel.

Step 2. Adjustment
PR-40 Board

15-12. CHROMA LEVEL CONTROL CALIBRATION

Connection; Same as Section 6-2, Connection 1 or 2
Equipment; Oscilloscope
Input; DC
Trigger; HD (test signal generator)
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
Color Bars (PAL or SECAM)

Adjustment
PR-40 Board



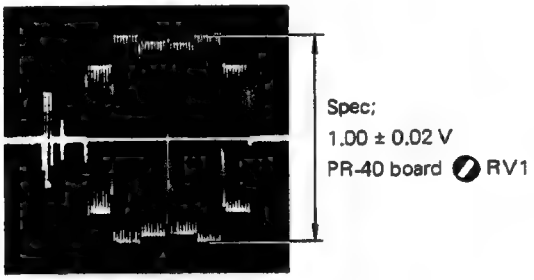
Spec; Chroma leakage (A, B) = minimum
⊘ RV501

SECTION 16
OUTPUT HETERODYNE ALIGNMENT (For PAL Model)

16-1. D/A OUTPUT LEVEL CALIBRATION

Connection; Same as Section 6-2, Connection 1
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
PAL Color Bars

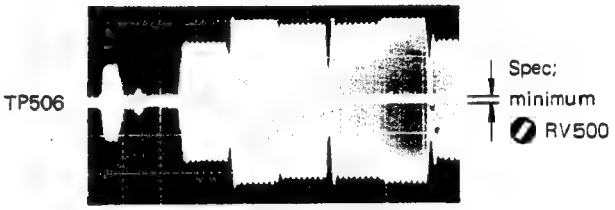
Adjustment
SG-67 Board



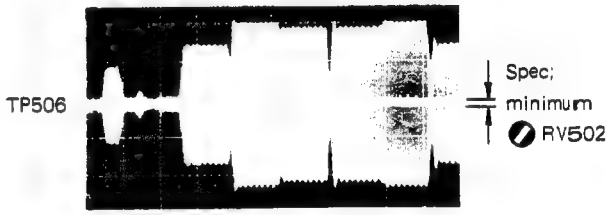
16-2. CARRIER NULL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
PAL Color Bars

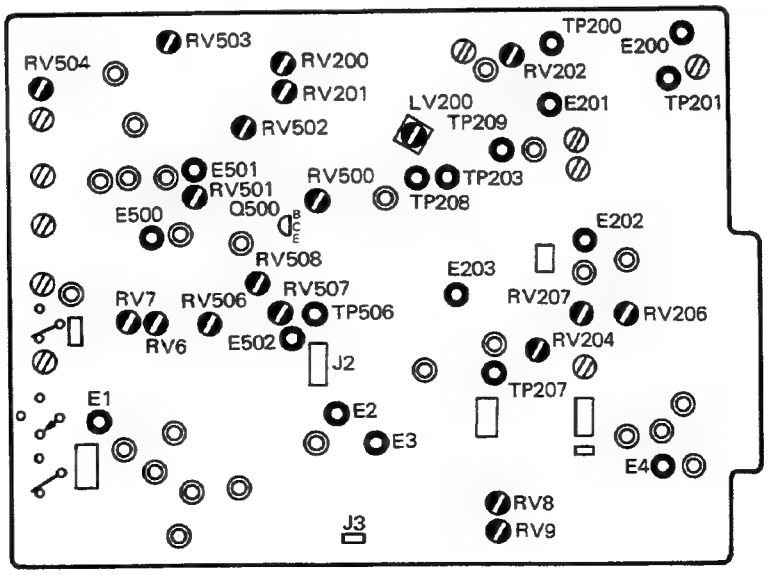
Step 1. Check that the SG-67 board J3 Normal/Test Select Jumper plug has been set.
Step 2. Adjustment
SG-67 Board



Step 3. Remove the J3 Normal/Test Select Jumper plug.
Step 4. Adjustment
SG-67 Board



Step 5. Set the J3 Normal/Test Select Jumper plug again.

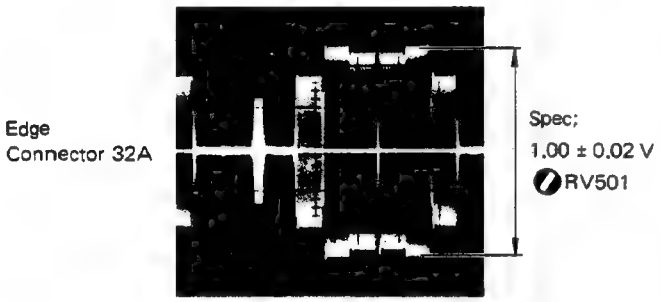


SG-67 Board — component side —

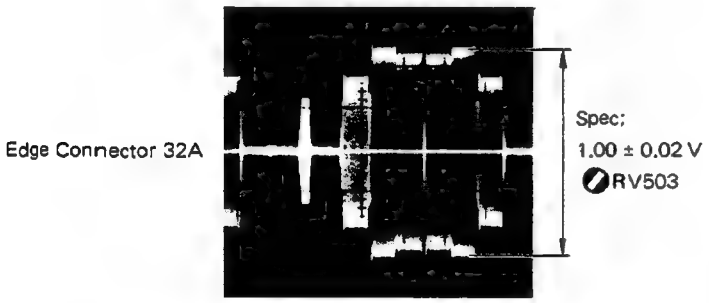
16-3. CHROMA LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
PAL Color Bars

Step 1. Check that the SG-67 board J3 Normal/Test Select Jumper plug has been set.
Step 2. Adjustment
SG-67 Board



Step 3. Remove the J3 Normal/Test Select Jumper plug.
Step 4. Adjustment
SG-67 Board

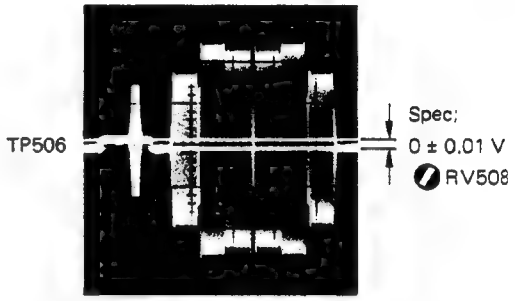


Step 5. Set the J3 Normal/Test Select Jumper plug again.

16-4. BURST OFFSET ADJUSTMENT

Connection; Same as Section 6-2, Connection 1
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
PAL Color Bars

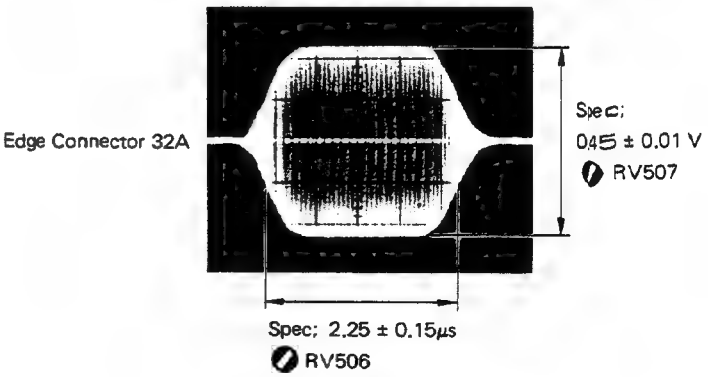
Adjustment
SG-67 Board



16-5. BURST WIDTH & LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
PAL Color Bars

Adjustment
SG-67 Board



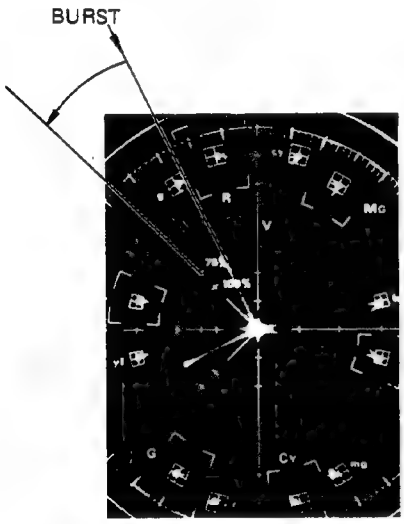
16-6. BURST/CHROMA PHASE ADJUSTMENT

Connection; Same as Section 6-2, Connection 1
Equipment; Vectorscope
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
PAL Color Bars

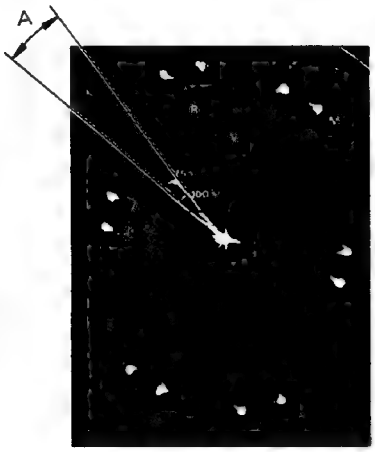
Step 1. Adjust the vectorscope so that the yellow spot appears within the YL target.

Step 2. Select the jumper position of J2 (SG-67 board) so that the burst coincides with the burst position on the vectorscope.

OUT-1 (BVT-800PS)

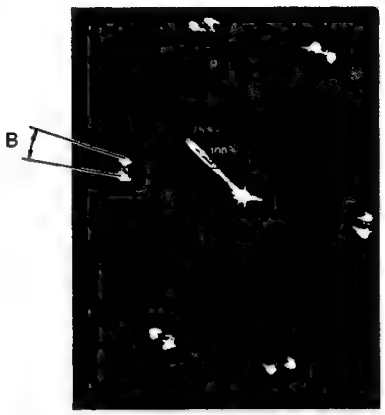


Step 3. Fine Adjustment
OUT-1 (BVT-800PS)



Spec; A = 0 ± 1%
VECTORSCOPE PHASE Control

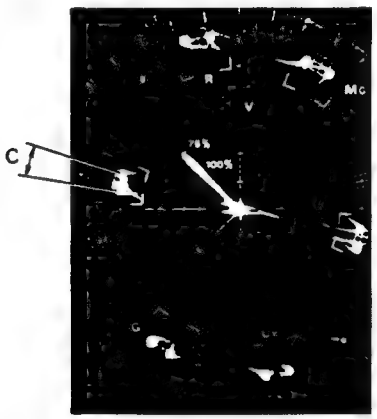
Step 4. Set the PR-40 board S1, COMP/DUB switch to COMP or DUB.
OUT-1 (BVT-800PS)



Spec; B = 0 ± 1° (COMP mode)
SG-67 board RV6
Spec; B = 0 ± 1° (DUB mode)
SG-67 board RV7

Step 5. Set the PR-40 board S1, COMP/DUB switch to COMP and remove the J3 Jumper plug.

Step 6. Adjustment
OUT-1 (BVT-800PS)



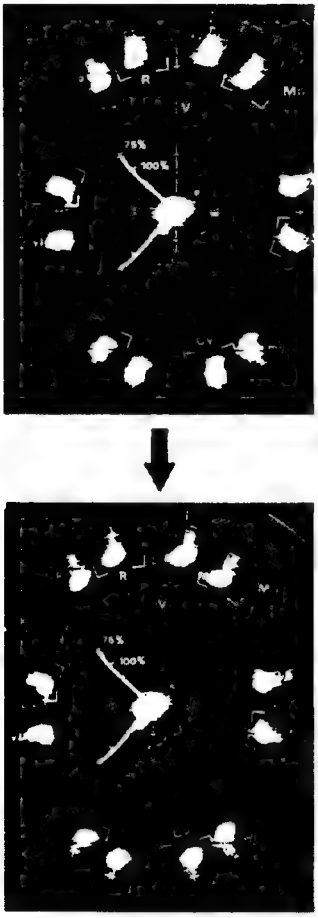
Spec; C = 0 ± 1°
SG-67 board RV504

Step 7. Set the J3 Jumper plug again.

16-7. ACC ADJUSTMENT

Connection; Same as Section 6-2, Connection 1
Equipment; Vectorscope
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
PAL Color Bars

Adjustment
OUT-1 (BVT-800PS)



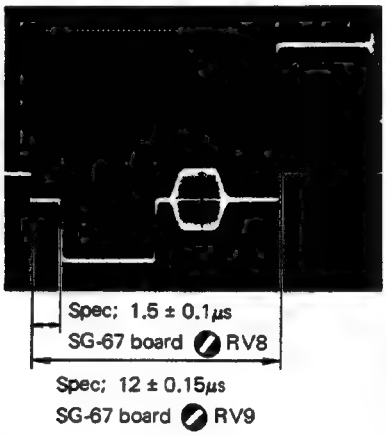
Spec; The dots become smallest.
SG-67 board ⊘ RV202

16-8. BLANKING ADJUSTMENT

Connection; Same as Section 6-2, Connection 1
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
PAL Color Bars

Step 1. Set the PR-40 board S3, BLACK LEVEL PRESET switch to manual and turn the BLACK LEVEL control fully clockwise.

Step 2. Adjustment
OUT-1 (BVT-800PS)

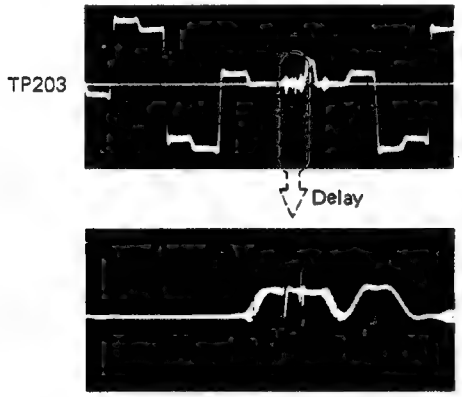


Step 3. Set the PR-40 board S3 BLACK LEVEL PRESET switch to PRESET.

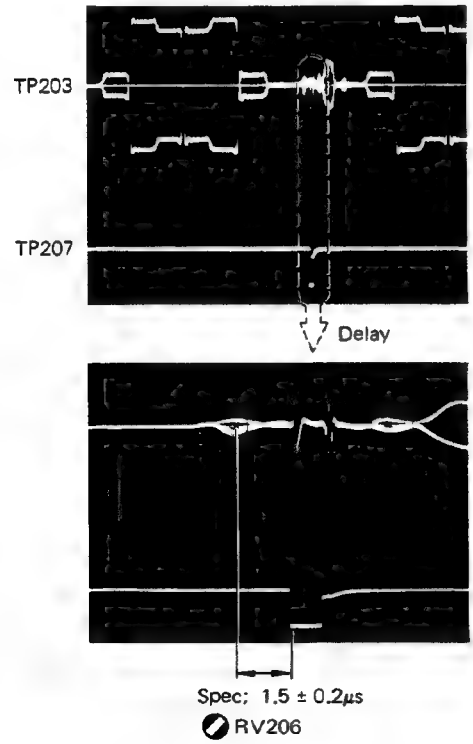
16-9. DUB APC ADJUSTMENT

Connection; Same as Section 6-2, Connection 1
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; DUB
Input Signal (OFF TAPE VIDEO IN);
PAL Color Bars

Step 1. Adjustment (1)
SG-67 Board



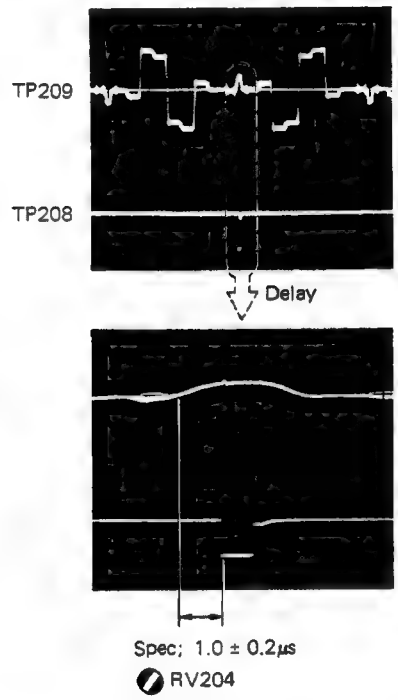
Step 2. Adjustment (2)
SG-67 Board



16-10. DUB BURST SAMPLING PULSE ADJUSTMENT

Connection; Same as Section 6-2, Connection 1
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; DUB
Input Signal (OFF TAPE VIDEO IN);
PAL Color Bars

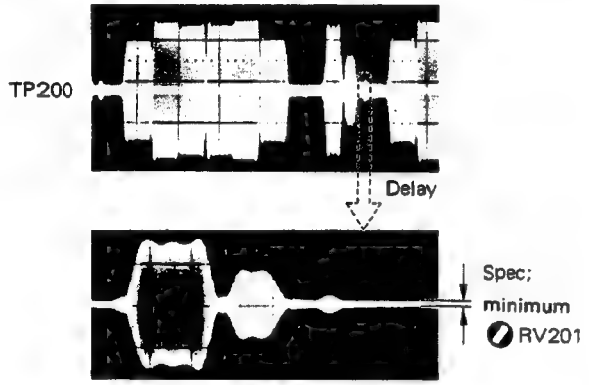
Adjustment
SG-67 Board



16-11. DUB CARRIER NULL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; DUB
Input Signal (OFF TAPE VIDEO IN);
PAL Color Bars

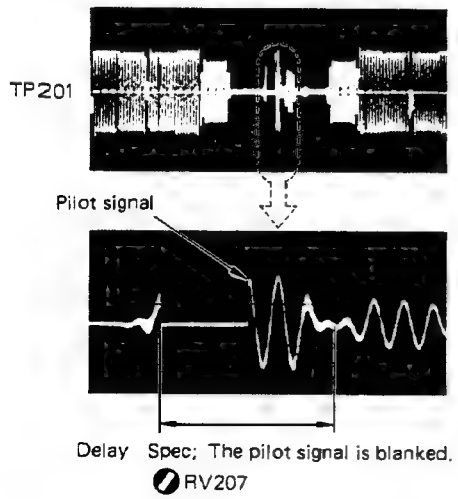
Adjustment
SG-67 Board



16-12. PILOT BLANKING ADJUSTMENT

Connection; Same as Section 6-2, Connection 1
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; DUB
Input Signal (OFF TAPE VIDEO IN);
PAL Color Bars

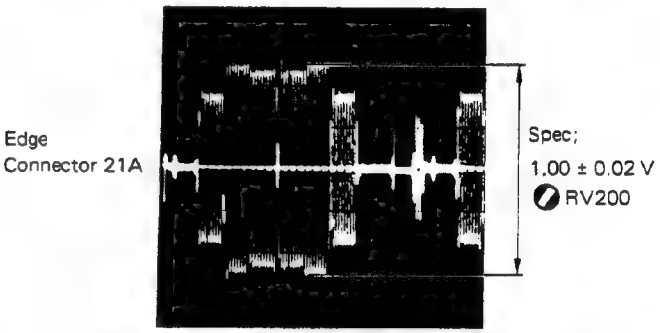
Adjustment
SG-67 Board



16-13. WRITE CHROMA LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; DUB
Input Signal (OFF TAPE VIDEO IN);
PAL Color Bars

Adjustment
SG-67 Board

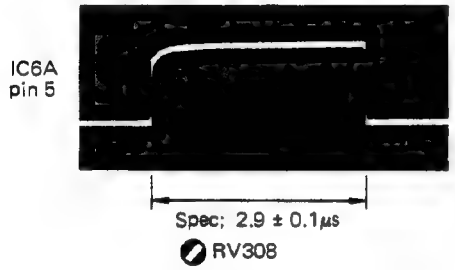


SECTION 17
CHROMA MODULATOR ALIGNMENT (For SECAM Model)

17-1. D/A CHROMA CLAMP PULSE POSITION ADJUSTMENT

Connection; Same as Section 6-2, Connection 2
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3
Input Signal (OFF TAPE VIDEO IN);
SECAM Color Bars

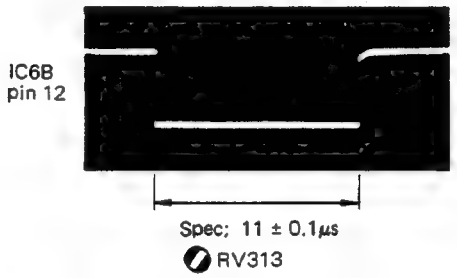
Adjustment
SG-68 Board

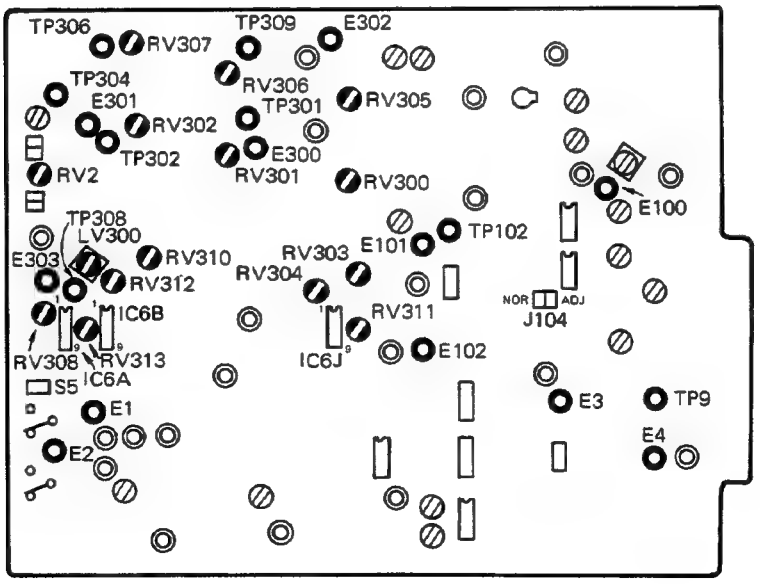


17-2. CHROMA & ID START POSITION ADJUSTMENT

Connection; Same as Section 6-2, Connection 2
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3
Input Signal (OFF TAPE VIDEO IN);
SECAM Color Bars.

Adjustment
SG-68 Board



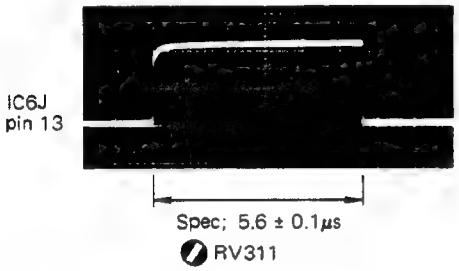


SG-68 Board — component side —

17-3. READ CHROMA CLAMP PULSE POSITION ADJUSTMENT

Connection; Same as Section 6-2, Connection 2
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3
Input Signal (OFF TAPE VIDEO IN);
SECAM Color Bars

Adjustment
SG-68 Board



17-4. MODULATOR VCO ADJUSTMENT

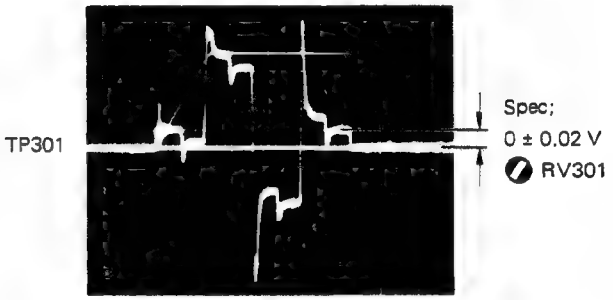
Equipment; Digital DC Voltmeter
Switches & Controls Setting;
Same as Section 6-3

Step 1. Wait for five minutes with power on, and perform the following steps.
Step 2. Turn off the SUBCARRIER AMPLITUDE switch of the Model 143 Test Signal Generator and also turn off the SG-68 board S5, ID ON/OFF switch.
Step 3. Connect the minus probe of the voltmeter to TP304, and connect the plus probe to TP302.
SG-68 Board:
Spec; TP302 = TP304 + (−2.45 ± 0.01) Vdc
RV302
Step 4. Change the connection of the plus probe from TP302 to TP306.
SG-68 Board:
Spec; TP306 = TP304 + (−2.45 ± 0.01) Vdc
RV307
Step 5. Turn on the SUBCARRIER AMPLITUDE switch of the Test Signal Generator and the SG-68 board S5 switch.

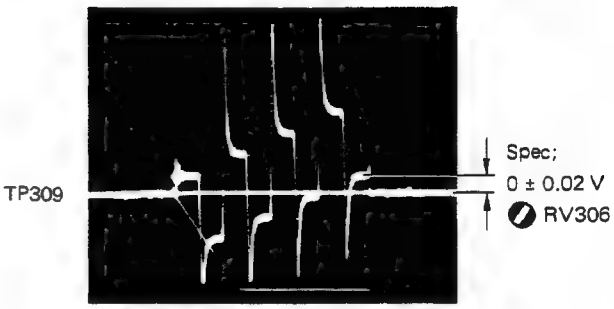
17-5. CHROMA PEDESTAL LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 2
Equipment; Oscilloscope
Input; DC
Trigger; 7.8 KHz (test signal generator)
Switches & Controls Setting;
Same as Section 6-3
Input Signal (OFF TAPE VIDEO IN);
SECAM Color Bars

Step 1. Adjustment (1)
SG-68 Board



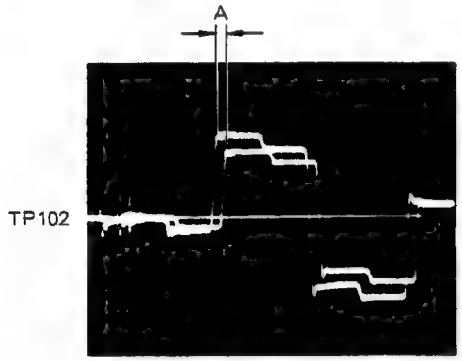
Step 2. Adjustment (2)
SG-68 Board



17-6. MODULATOR INPUT LEVEL ADJUSTMENT

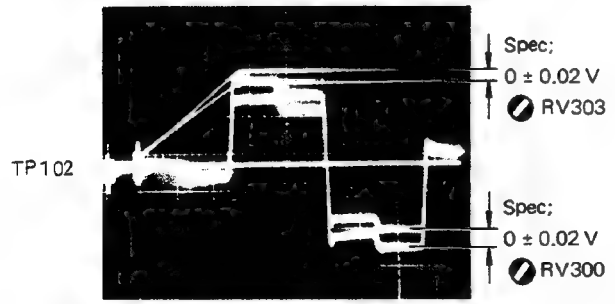
Connection; Same as Section 6-2, Connection 2
Equipment; Oscilloscope
Input; DC
Trigger; 7.8 KHz (test signal generator)
Switches & Controls Setting;
Same as Section 6-3
Input Signal (OFF TAPE VIDEO IN);
SECAM Color Bars

Step 1. Turn off the PRE EMPHASIS switch of the Model 143 Test Signal Generator.
Step 2. Set the SG-68 board J104, NOR/ADJ Jumper plug to ADJ.
Step 3. Time Base Adjustment
SG-68 Board

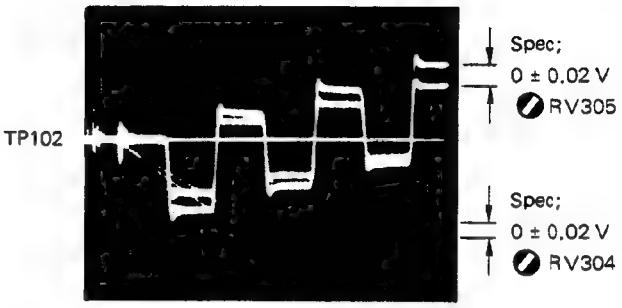


Spec; A = minimum
RV2

Step 4. D'R Adjustment
SG-68 Board



Step 5. D'B Adjustment
SG-68 Board

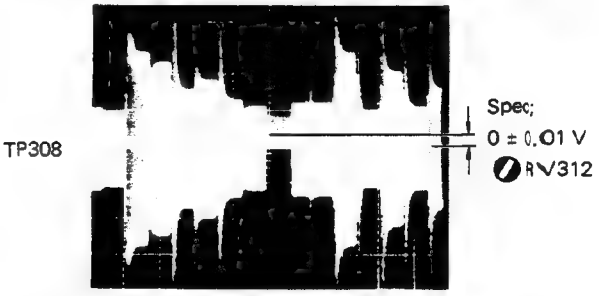


Step 6. Set the SG-68 board J104 to NOR.
Step 7. Turn on the PRE EMPHASIS switch of the Model 143 Test Signal Generator.

17-7. BLANKING LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 2
Equipment; Oscilloscope
Input; DC
Trigger; 7.8 KHz (test signal generator)
Switches & Controls Setting;
Same as Section 6-3
Input Signal (OFF TAPE VIDEO IN);
SECAM Color Bars

Step 1. Adjustment
SG-68 Board

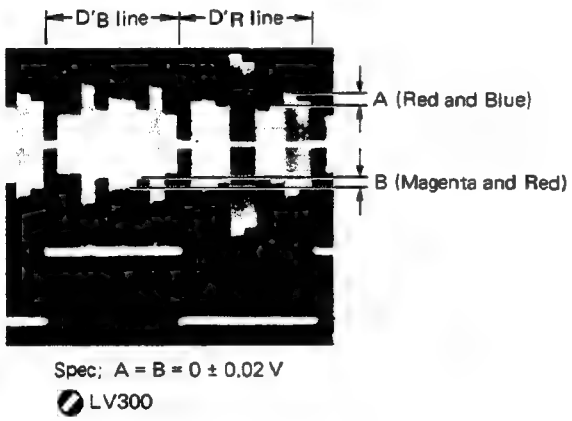


17-8. ANTI-BELL FILTER ADJUSTMENT

Connection; Same as Section 6-2, Connection 2
Equipment; Oscilloscope
Input; DC
Trigger; 7.8 KHz (test signal generator)
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
SECAM Color Bars

Step 1. Turn off the PRE EMPHASIS switch of the Model 143 Test Signal Generator.

Step 2. **Adjustment**
SG-68 Board

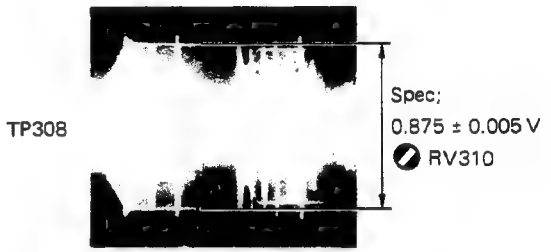


Step 3. Turn on the PRE EMPHASIS switch of the Model 143 Test Signal Generator.

17-9. MODULATOR OUTPUT LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 2
Equipment; Oscilloscope
Input; DC
Trigger; 7.8 KHz (test signal generator)
Switches & Controls Setting;
Same as Section 6-3
Input Signal (OFF TAPE VIDEO IN);
SECAM Color Bars

Adjustment
SG-68 Board

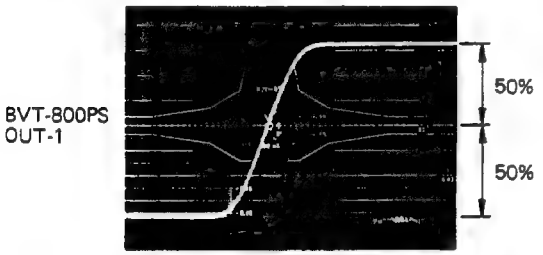


SECTION 18
VIDEO PHASE ALIGNMENT

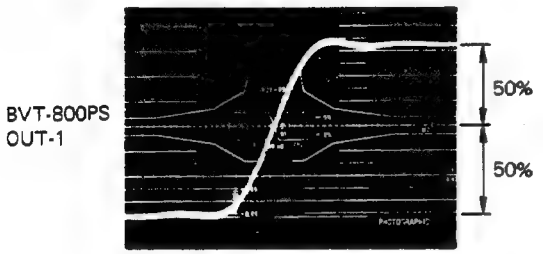
18-1. VIDEO PHASE ADJUSTMENT

Connection; Same as Section 6-2, Connection 1
Equipment; Waveform Monitor
SYNC; INT
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
SG-67 Board S3, SG-68 Board S2 } BYPASS/NORMAL Select Switch; BYPASS
Input Signal (OFF TAPE VIDEO IN);
Pulse & Bar

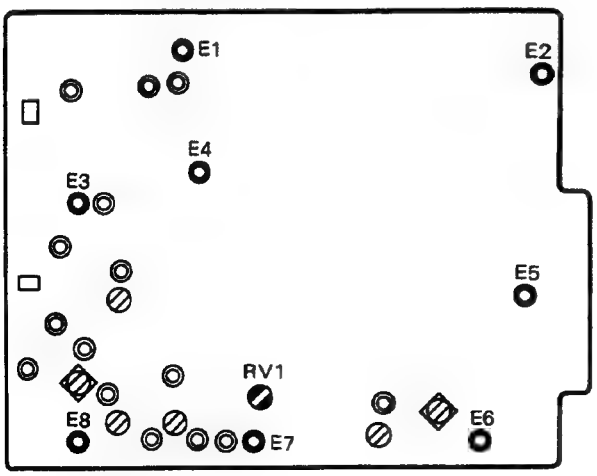
Step 1. Set the rising edge of the bar signal at the graticule center.



Step 2. Set the SG-67/68 board, BYPASS/NORMAL switch to NORMAL.



Spec; Rising edge of the bar coincides with the graticule center.
CK-11 board ⊘ RV1



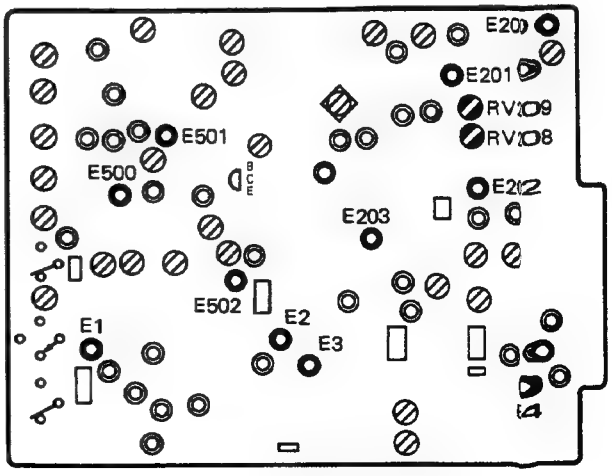
CK-11 Board — component side —

18-2. Y/C DELAY ADJUSTMENT (For PAL Model)

Connection; Same as Section 6-2, Connection 1.
Equipment; Waveform Monitor
Switches & Controls Setting;
Same as Section 6-3
Input Signal (OFF TAPE VIDEO IN);
Modulated 20T of Pulse & Bar

Adjustment
BVT-800PS

Spec; A = minimum
SG-67 board, ⊘ RV209 (PR-40 board S1, COMP/DUB switch; COMP)
SG-67 board, ⊘ RV208 (PR-40 board S1, COMP/DUB switch; DUB)

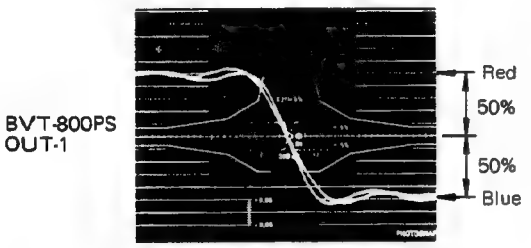


SG-67 Board — component side —

18-3. Y/C DELAY PRESET ADJUSTMENT (For SECAM Model)

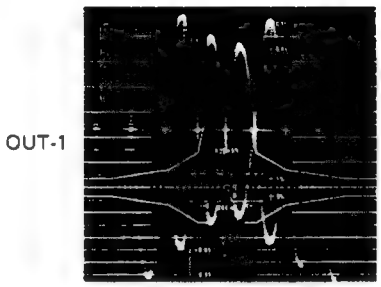
Connection; Same as Section 6-2, Connection 2
Equipment; Waveform Monitor
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
SG-67 Board S3 } BYPASS/NORMAL Select Switch; BYPASS
SG-68 Board S2 }
Input Signal (OFF TAPE VIDEO IN);
Color Bars (SECAM)

Step 1. Set the red-blue transition at the graticule center.
Step 2. Remove the J4 chrominance SC Blank jumper from OFF position.
Step 3. Set the SUBCARRIER AMPLITUDE switch to VAR, decreasing the subcarrier level and stop right before the BVT-800PS changes to the B/W mode.
Step 4. Set the red-blue transition at the graticule center again.



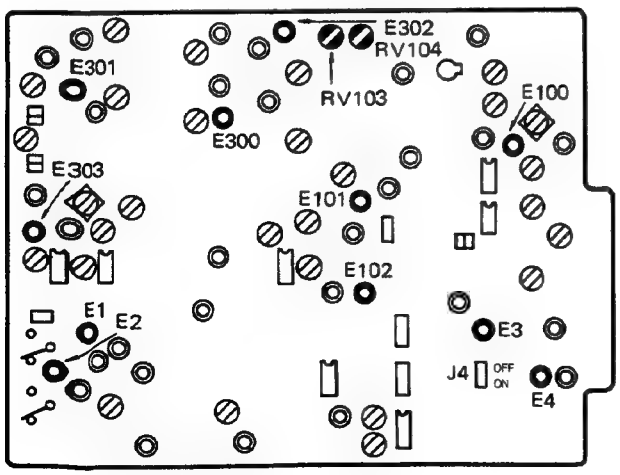
Step 5. Insert J4 into OFF position, and set the Y and PRE-EMPHASIS switches on the WFM to OFF.

Step 6. Adjustment
BVT-800PS



Spec; Minimum point of the chrominance subcarrier envelope coincides with the graticule center.
SC-68 board ⊘RV104

Step 7. Perform the same adjustment for DUB mode.
Spec; Same as Step 6.
SG-68 board ⊘RV103



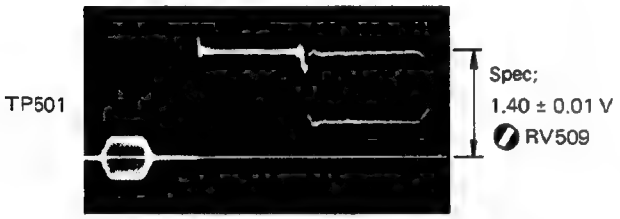
SG-68 Board — component side —

SECTION 19
VIDEO OUTPUT LEVEL ALIGNMENT

19-1. OUTPUT Y LEVEL & CHROMA LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1 or 2
Equipment; Oscilloscope
Input; DC
Trigger; HD (For PAL, test signal generator)
7.8 KHz (For SECAM, test signal generator)
Switches & Controls Setting;
Same as Section 6-3
Input Signal (OFF TAPE VIDEO IN);
Color Bars (PAL or SECAM)

Step 1. Output Y Level Adjustment
PR-40 Board



Step 2. Check that the chroma level at Edge Connector 32B on PR-40 board is within the following specification.

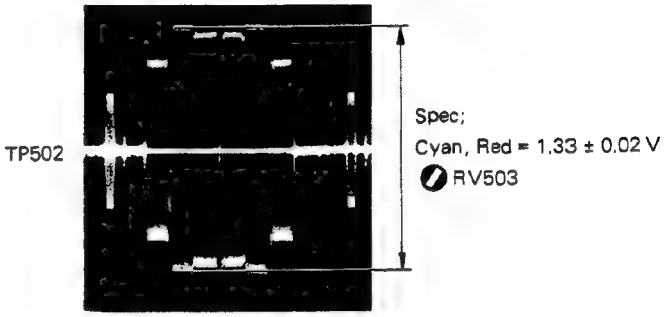
SG-67 Board (For PAL Model)
Spec; Write Chroma Level = 1.00 ± 0.02 Vp-p

SG-68 Board (For SECAM Model)
Spec; D'_R = 875 ± 5 mVp-p

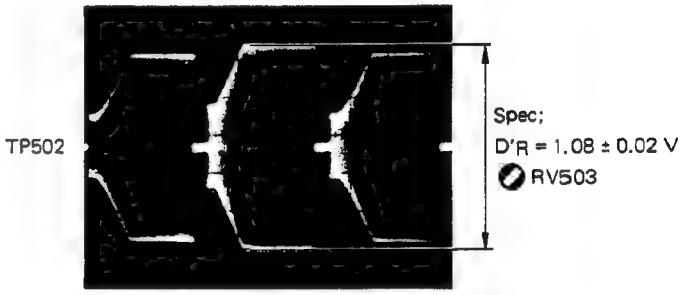
If the value is out of the specification, perform the following adjustment.

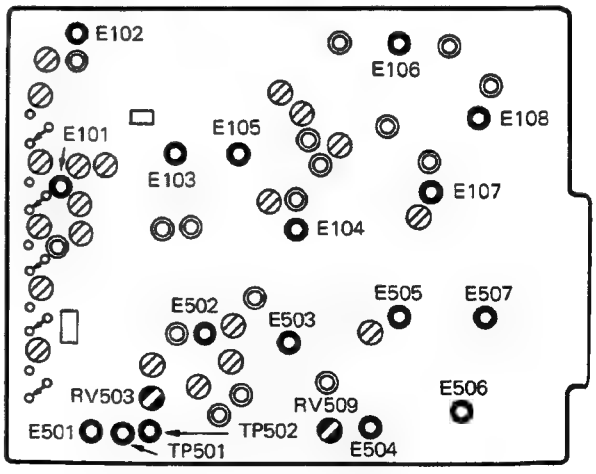
SG-67 Board:
Section 12-4. Write Chroma Level Adjustment
SG-68 Board:
Section 17-9. Modulator Output Level Adjustment

Step 3. Output Chroma Level Adjustment
For PAL Model
PR-40 Board



For SECAM Model
PR-40 Board



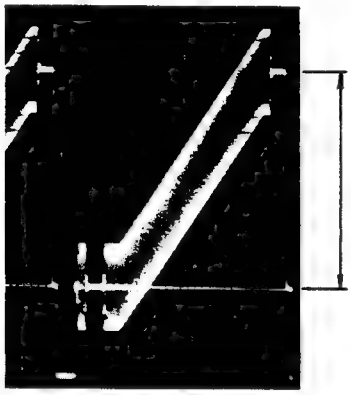


PR-40 Board — component side —

19-2. BYPASS VIDEO OUTPUT LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1
Equipment; Waveform Monitor
Switches & Controls Setting;
Same as Section 6-3 except the following.
SG-67 Board S3 } BYPASS/NORMAL Select Switch; BYPASS
SG-68 Board S2 }
Input Signal (OFF TAPE VIDEO IN);
Ramp linearity 1 Vp-p,
0.3 V subcarrier ON

Adjustment
OUT-1 (BVT-800PS)

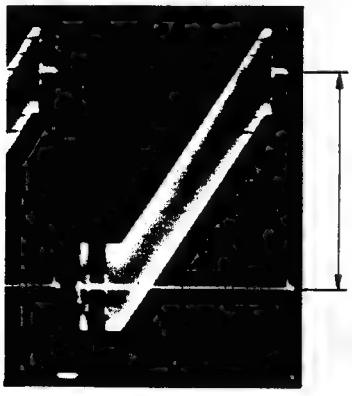


Spec; 0.700 ± 0.015 V
IV-4A Board ⊘ RV1

19-3. NORMAL VIDEO OUTPUT LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1
Equipment; Waveform Monitor
Switches & Controls Setting;
Same as Section 6-3
Input Signal (OFF TAPE VIDEO IN);
Ramp linearity 1 Vp-p,
0.3 V subcarrier ON

Adjustment
OUT-1 (BVT-800PS)

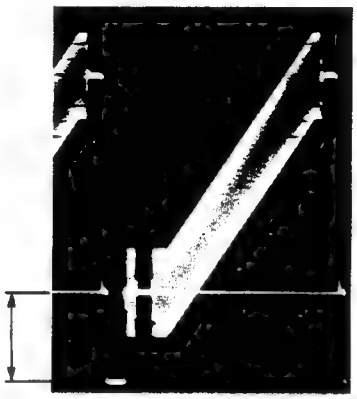


Spec; 0.700 ± 0.015 V
IV-4A ⊘ RV2

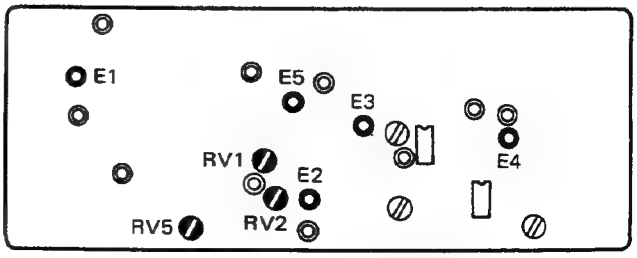
19-4. VIDEO OUTPUT SYNC LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1
Equipment; Waveform Monitor
Switches & Controls Setting;
Same as Section 6-3
Input Signal (OFF TAPE VIDEO IN);
Ramp linearity 1 Vp-p,
0.3 V subcarrier ON

Adjustment
OUT-1 (BVT-800PS)



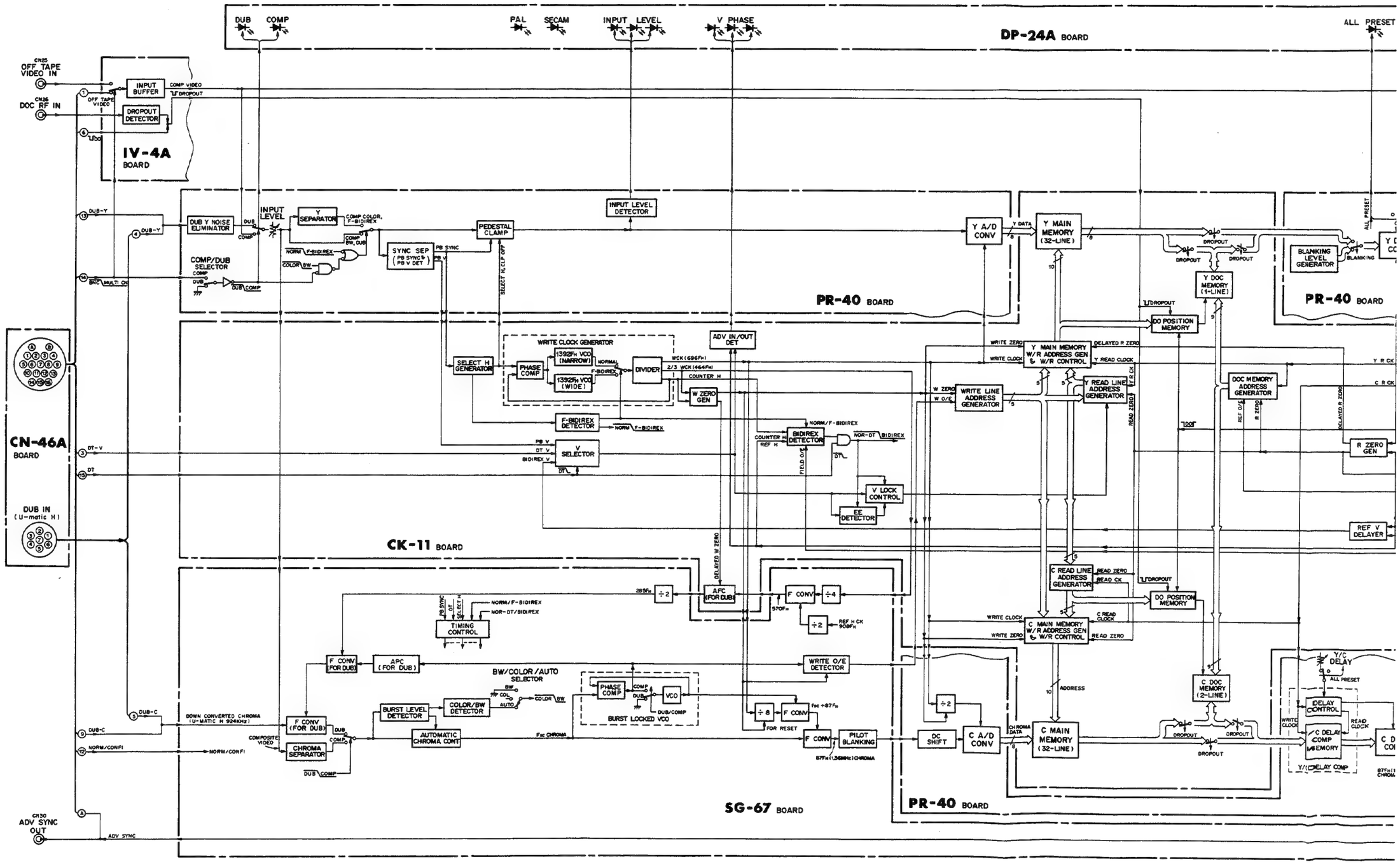
Spec; 0.300 ± 0.006 V
IV-4A Board ⊘ RV5



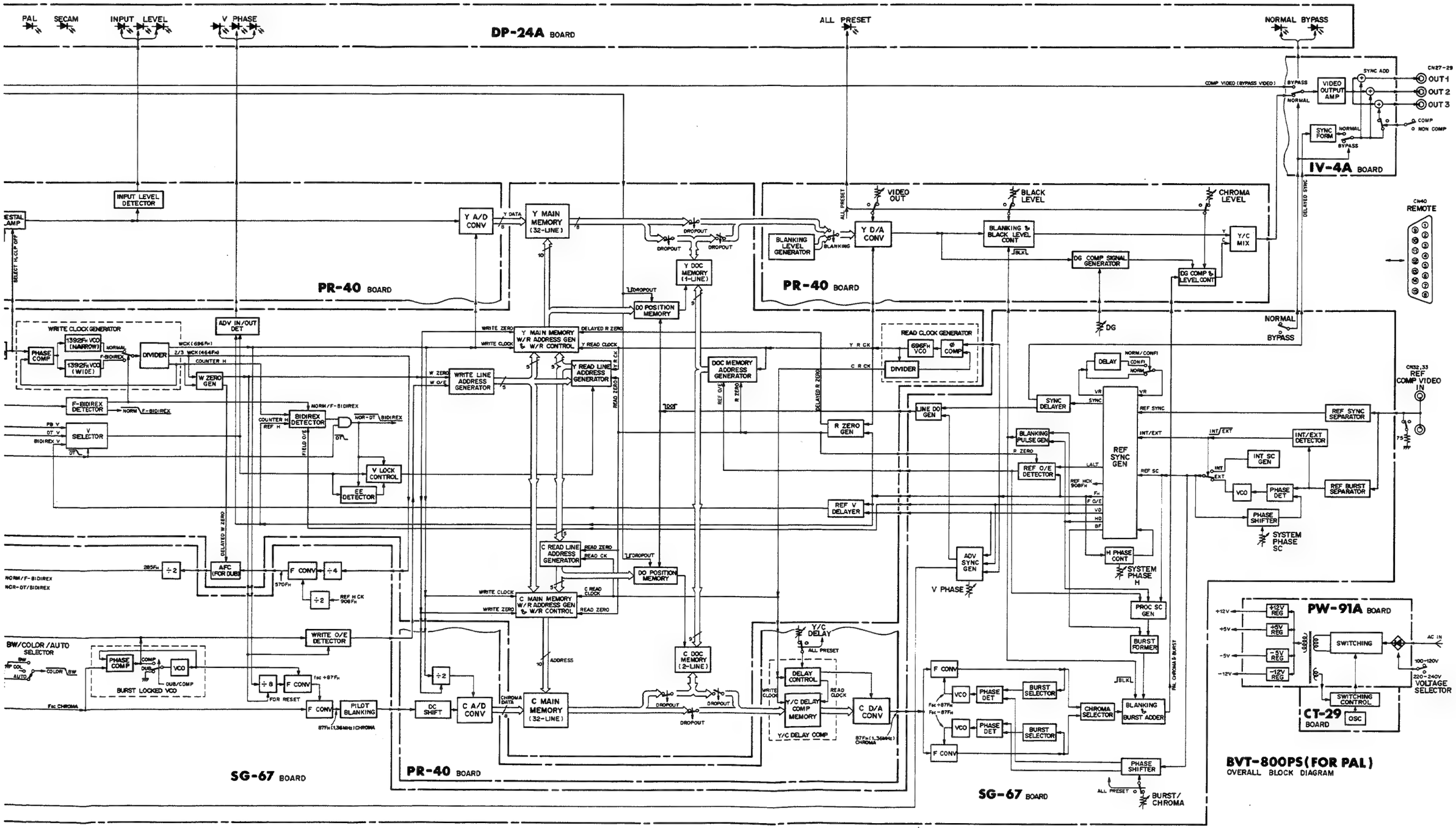
IV-4A Board — component side —

SECTION A
BLOCK DIAGRAM

PAL OVERALL BLOCK DIAGRAM

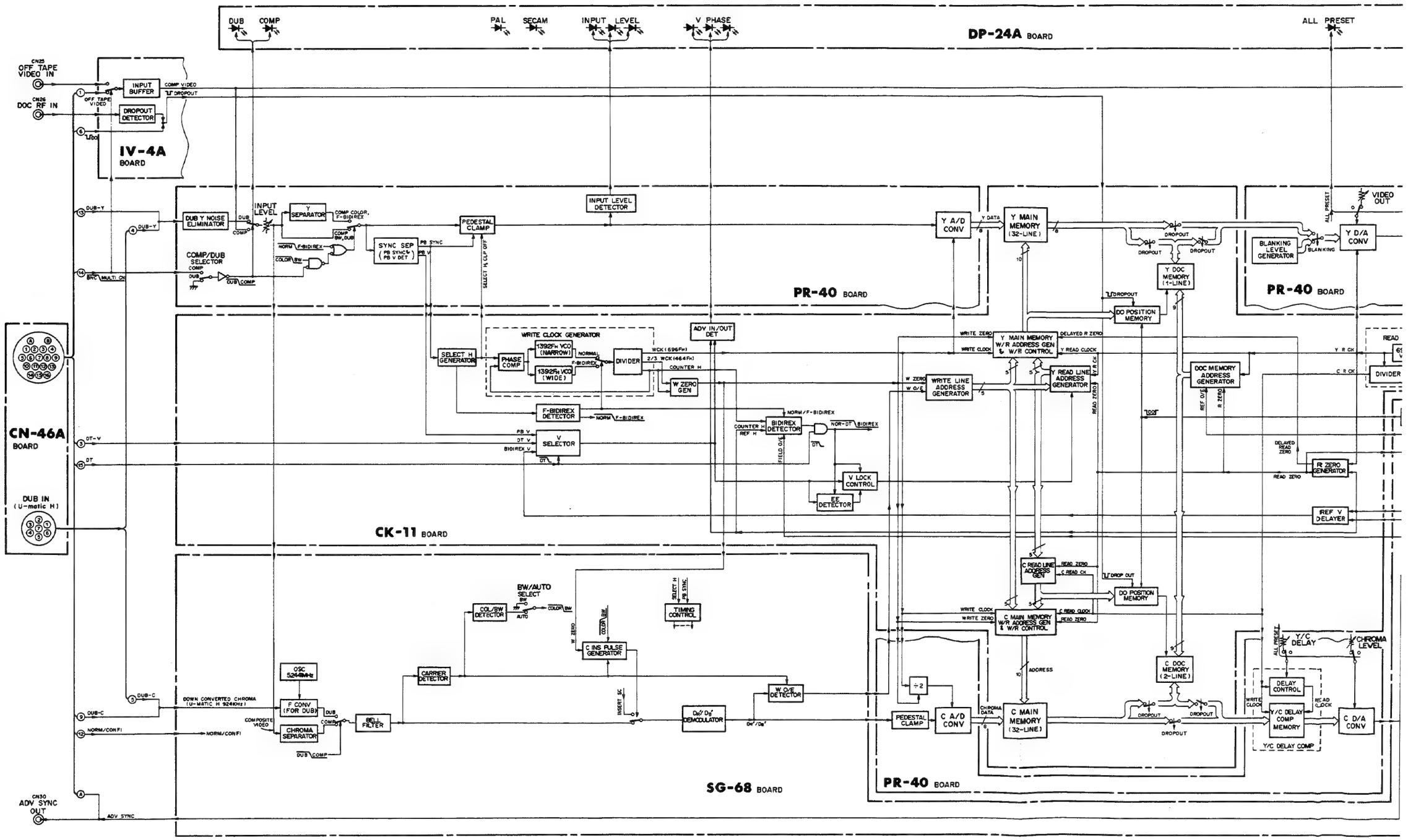


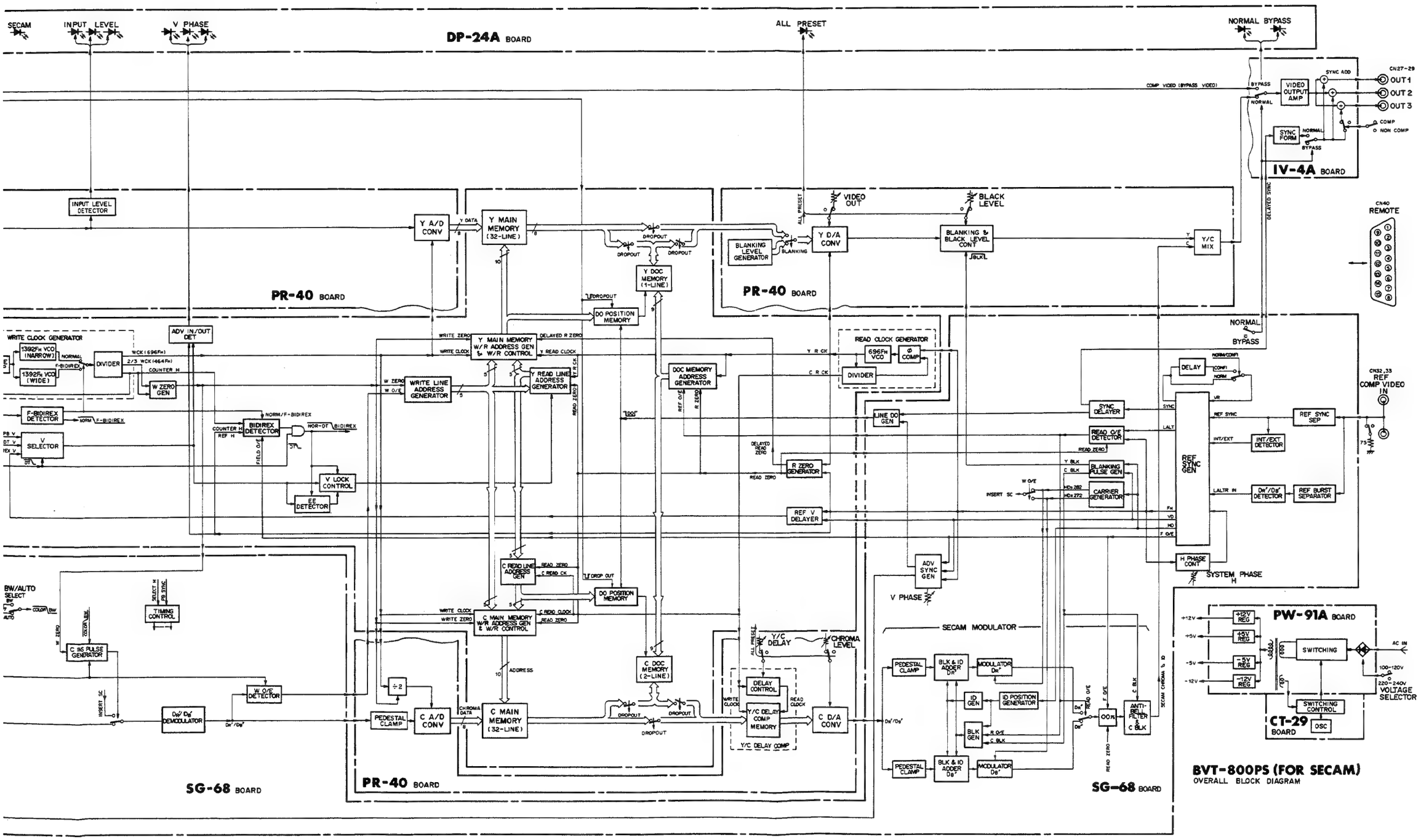
A-1 A-2



BVT-800PS(FOR PAL)
OVERALL BLOCK DIAGRAM

SECAM OVERALL BLOCK DIAGRAM

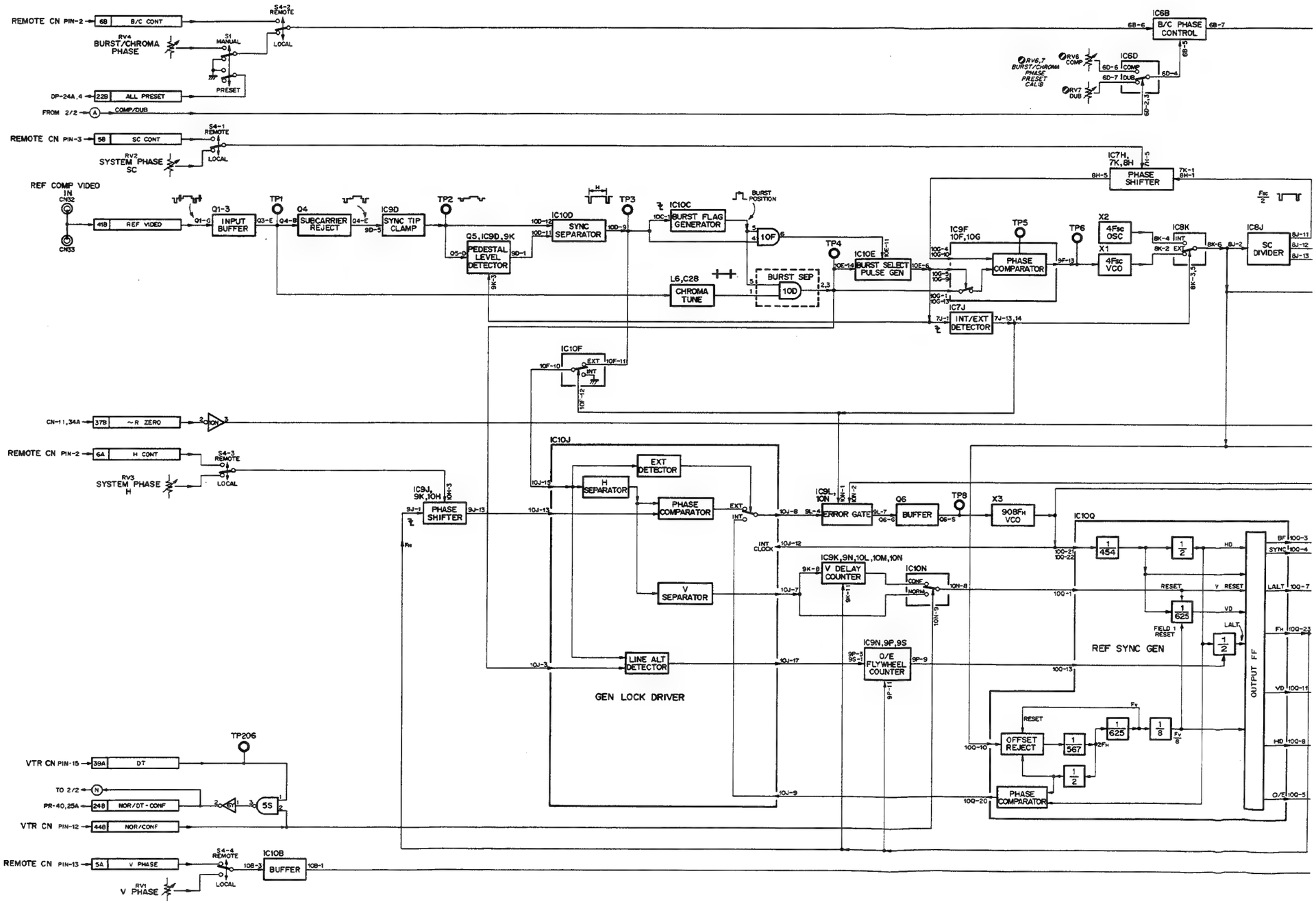




BVT-800PS (FOR SECAM)
OVERALL BLOCK DIAGRAM

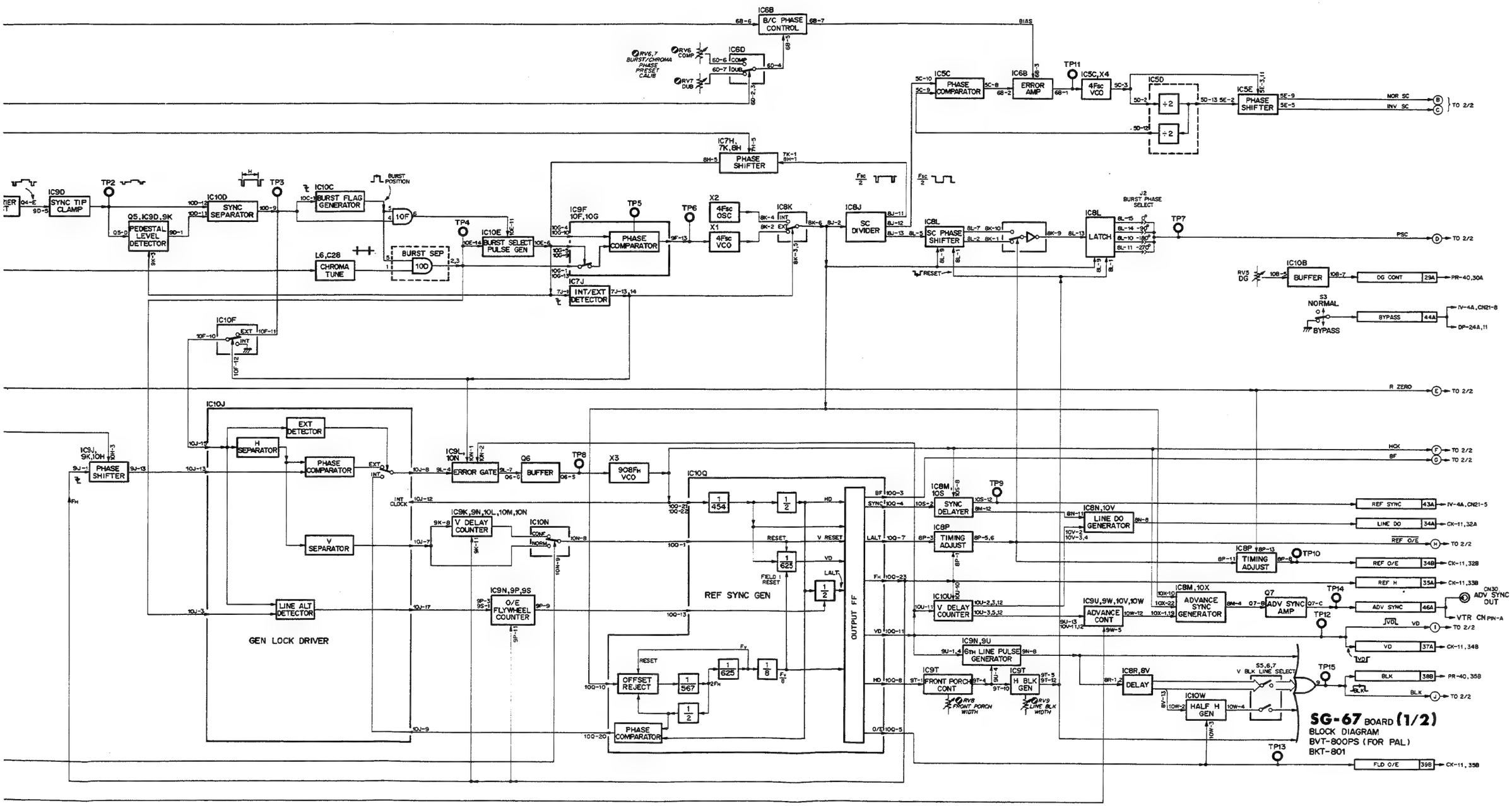
1 SG-67 BOARD (1/2); PAL SYNC GEN

Reference Sync Generator
Advanced Sync Generator
Blanking Pulse Generator
Line DO Pulse Generator
Proc SC Generator
Burst/Chroma Phase Control
SC Phase Control
System Phase Control
V Phase Control



A-10 (BVT-800PS)
A- 4 (BKT-801)

A-11 (BVT-800PS)
A- 5 (BKT-801)

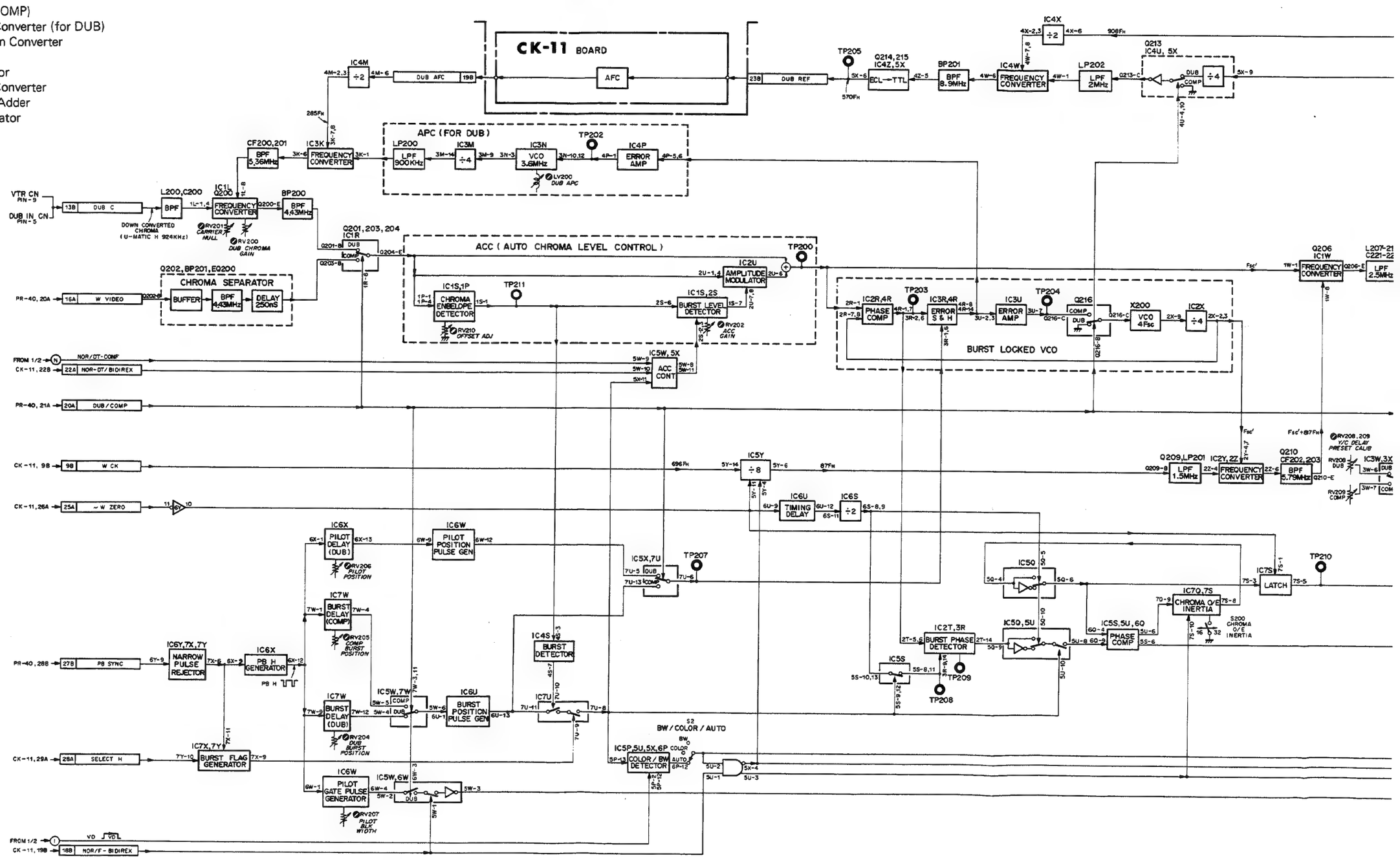


A-11 (BVT-800PS)
A- 5 (BKT-801)

A-12 (BVT-800PS)
A- 6 (BKT-801)

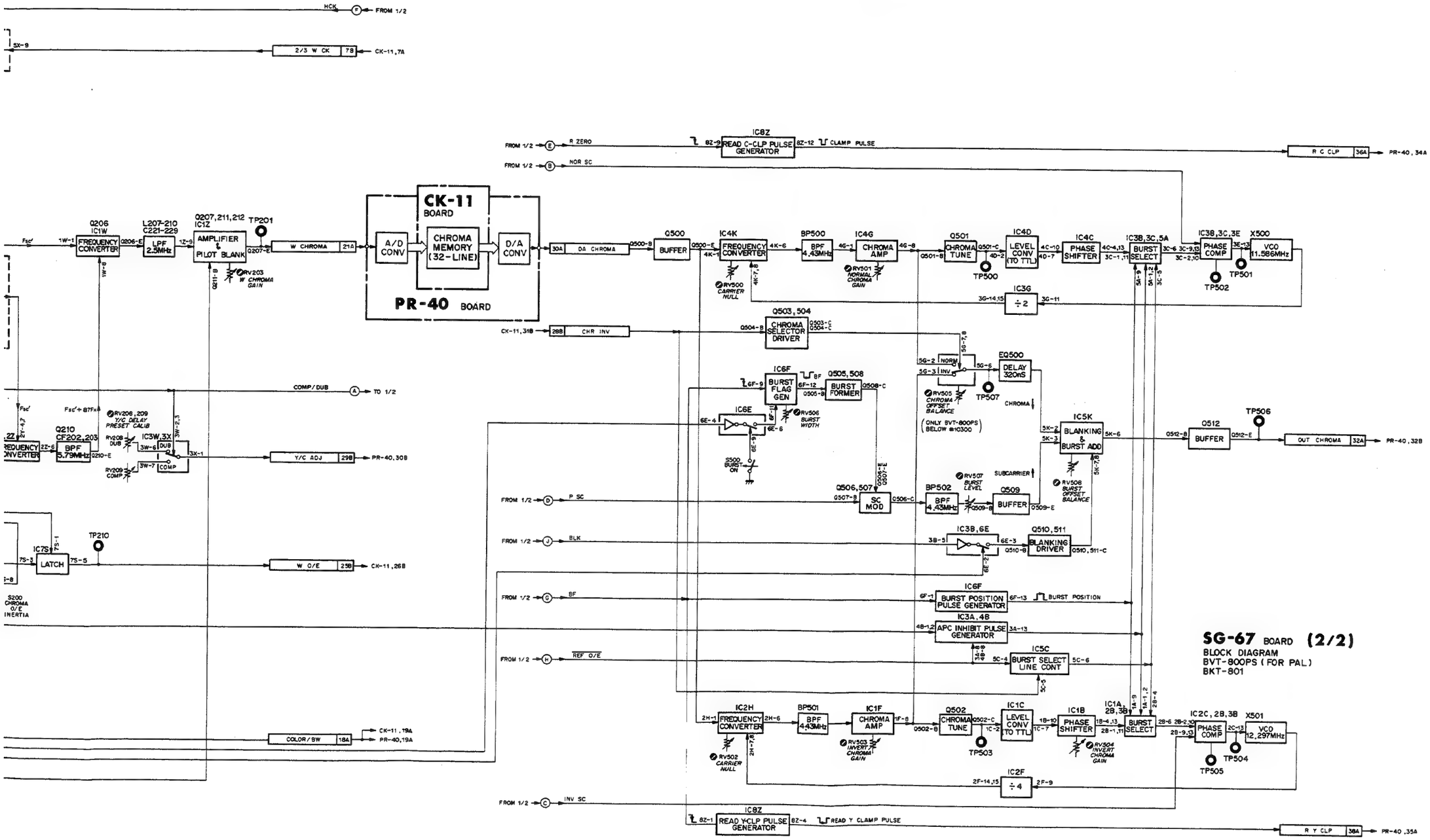
1 SG-67 BOARD (2/2); PAL SYNC GEN

Chroma Separator (for COMP)
Chroma Frequency Up Converter (for DUB)
Chroma Frequency Down Converter
Color/BW Detector
Write O/E Pulse Generator
Chroma Frequency Up Converter
Chroma Blanking/Burst Adder
Read Clamp Pulse Generator



A-13 (BVT-800PS)
A- 7 (BKT-801)

A-14 (BVT-800PS)
A- 8 (BKT-801)



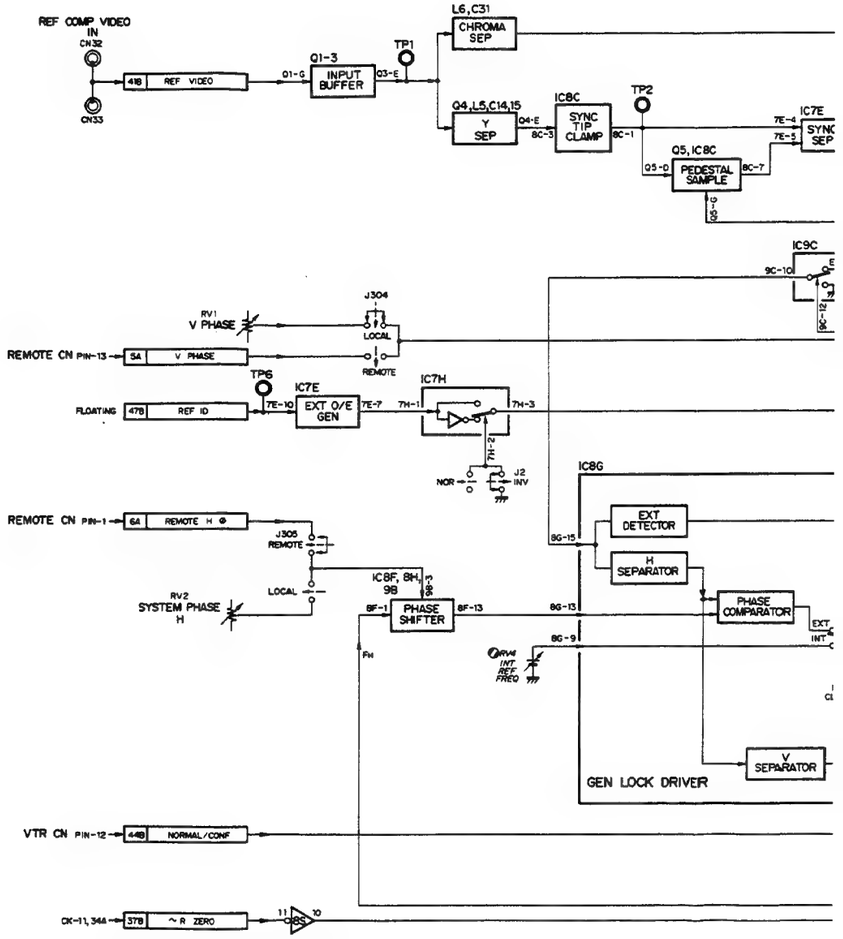
SG-67 BOARD **(2/2)**
BLOCK DIAGRAM
BVT-800PS (FOR PAL)
BKT-801

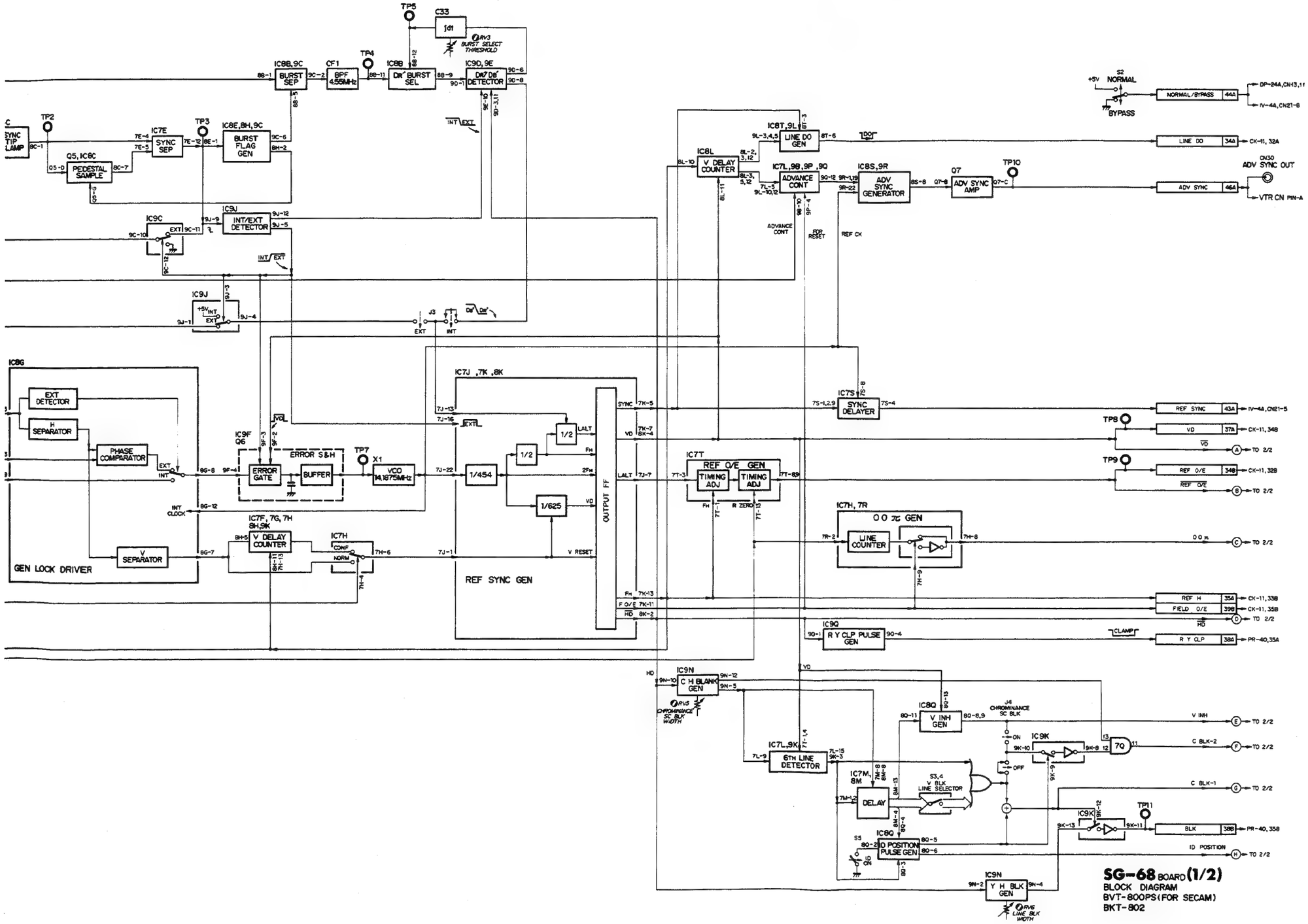
A-15 (BVT-800PS)
A- 9 (BKT-801)

A-16 (BVT-800PS)
A-10 (BKT-801)

1 SG-68 BOARD (1/2); SECAM SYNC GEN

Reference Sync Generator
Advanced Sync Generator
Blanking Pulse Generator
Line DO Pulse Generator
Read Y Clamp Pulse Generator
System Phase Control
V Phase Control





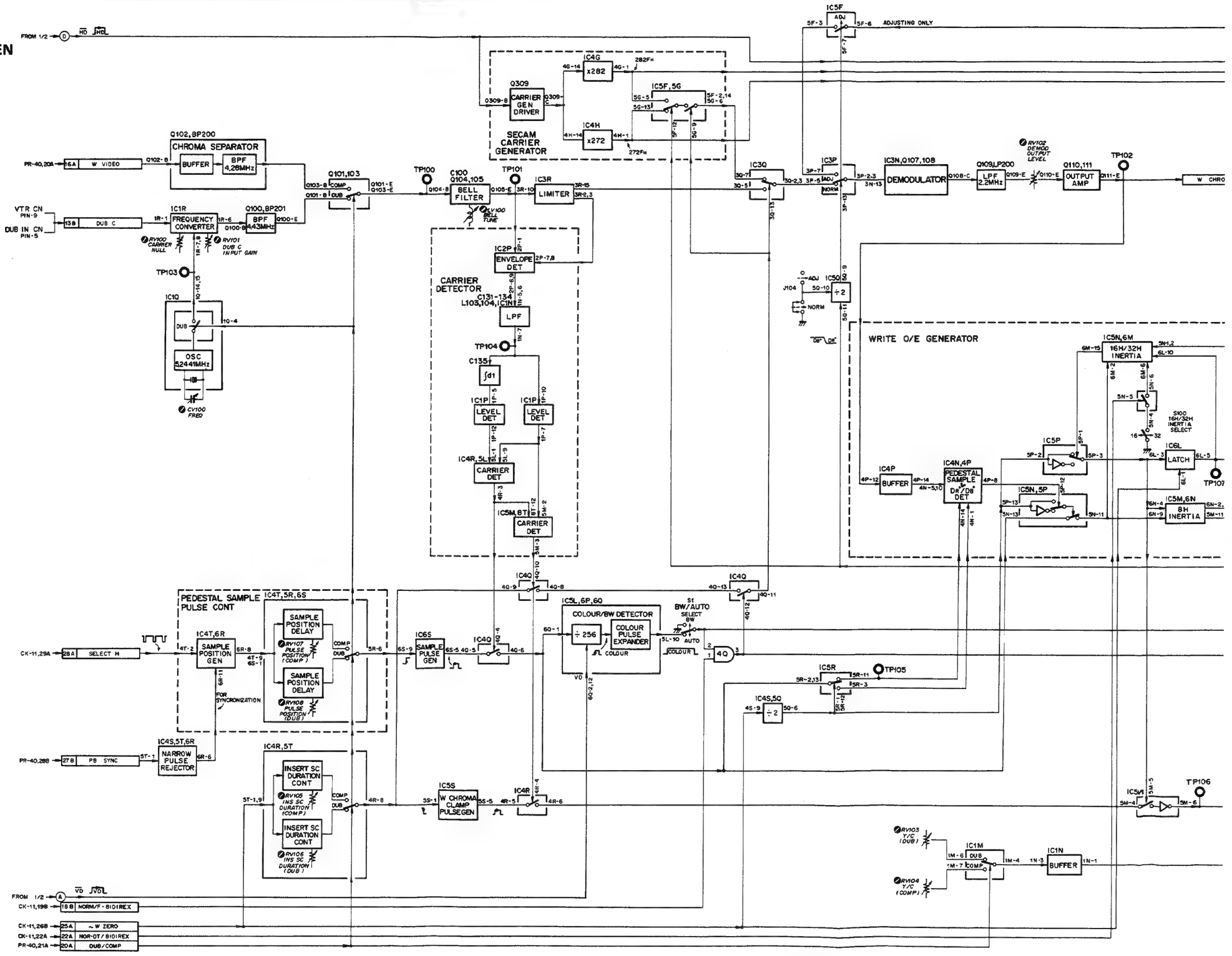
SG-68 BOARD (1/2)
BLOCK DIAGRAM
BVT-800PS (FOR SECAM)
BKT-802

A-19 (BVT-800PS)
A- 7 (BKT-802)

A-20 (BVT-800PS)
A- 8 (BKT-802)

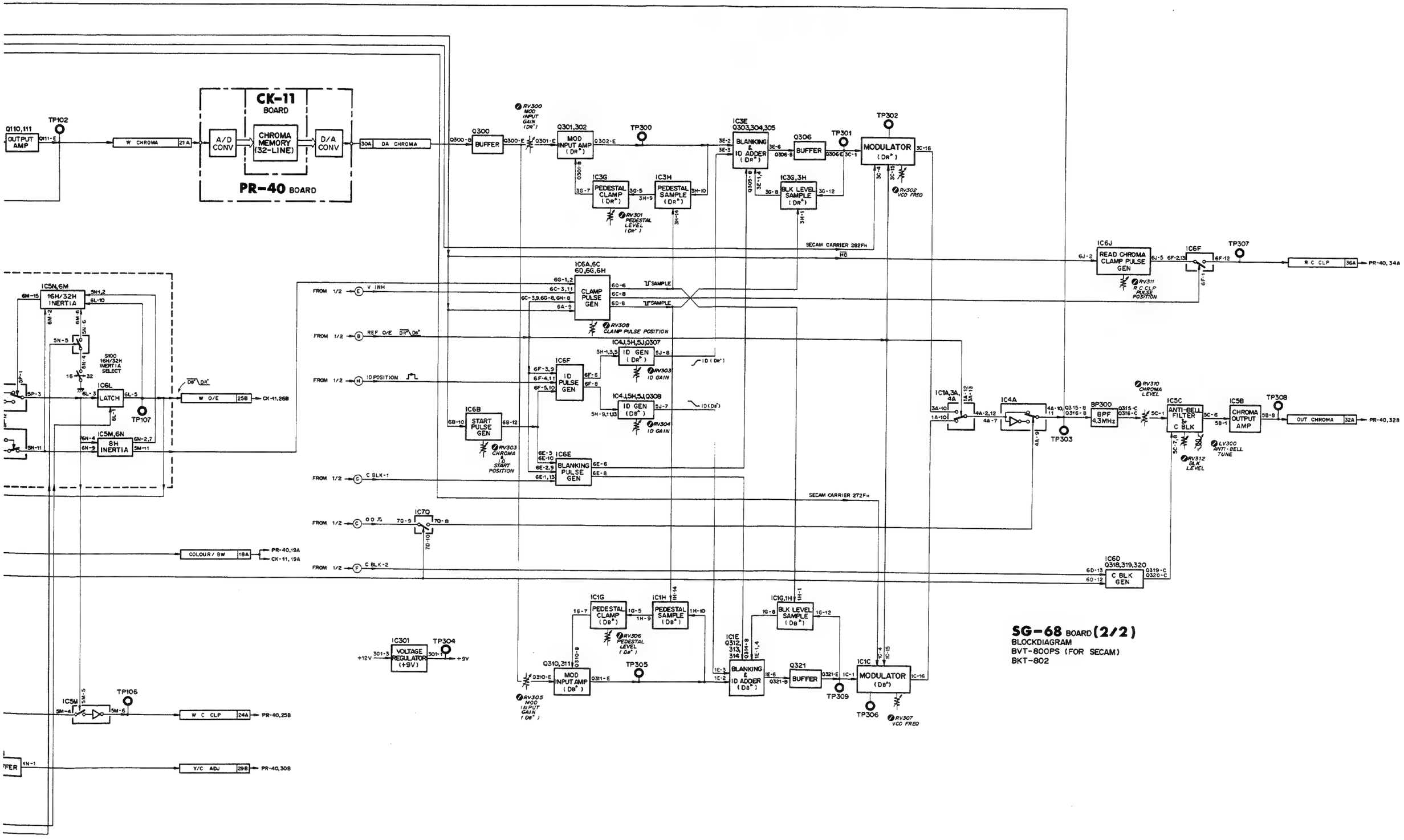
1 SG-68 BOARD (2/2); SECAM SYNC GEN

Chroma Separator (for COMP)
Chroma Frequency Up Converter (for DUB)
D_R'/D_B' Demodulator
SECAM Carrier Detector
Chroma Insert Pulse Generator
Write O/E Pulse Generator
Color/BW Detector
Write Chroma Clamp Pulse Generator



A-21 (BVT-800PS)
A- 9 (BKT-802)

A-22 (BVT-800PS)
A-10 (BKT-802)



SG-68 BOARD (2/2)
BLOCKDIAGRAM
BVT-800PS (FOR SECAM)
BKT-802

A-23 (BVT-800PS)
A-11 (BKT-802)

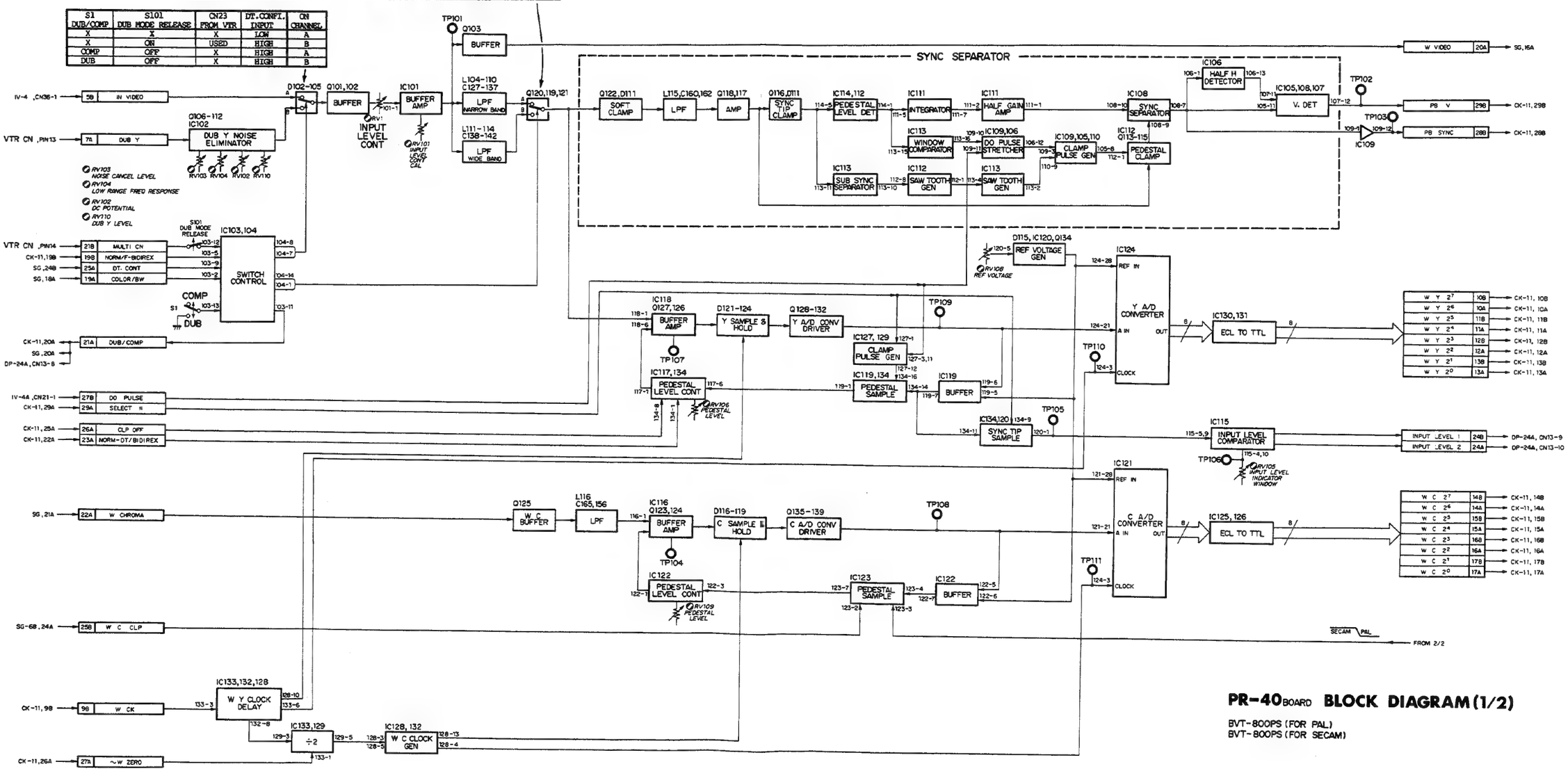
A-24 (BVT-800PS)
A-12 (BKT-802)

2 PR-40 BOARD (1/2); PROCESSOR

DUB Y Noise Eliminator
Input Level Control
Y Color/BW Select
PB V, PB Sync Generator
Y A-D Converter
Input Level Detector
C A-D Converter

S1 DUB/COMP	S101 DUB MODE RELEASE	CN23 FROM VTR	DT.CONFI. INPUT	COLOR/BW INPUT	NORM/F-BIDIREX INPUT	ON CHANNEL
X	X	X	X	X	LOW (F-BIDIREX)	A
X	X	X	X	BW	HIGH (NORMAL)	B
X	X	X	LOW	COLOR	HIGH (NORMAL)	A
X	ON	USED	HIGH	COLOR	HIGH (NORMAL)	B
COMP	OFF	X	HIGH	COLOR	HIGH (NORMAL)	A
DUB	OFF	X	HIGH	COLOR	HIGH (NORMAL)	B

S1 DUB/COMP	S101 DUB MODE RELEASE	CN23 FROM VTR	DT.CONFI. INPUT	ON CHANNEL
X	X	X	LOW	A
X	ON	USED	HIGH	B
COMP	OFF	X	HIGH	A
DUB	OFF	X	HIGH	B

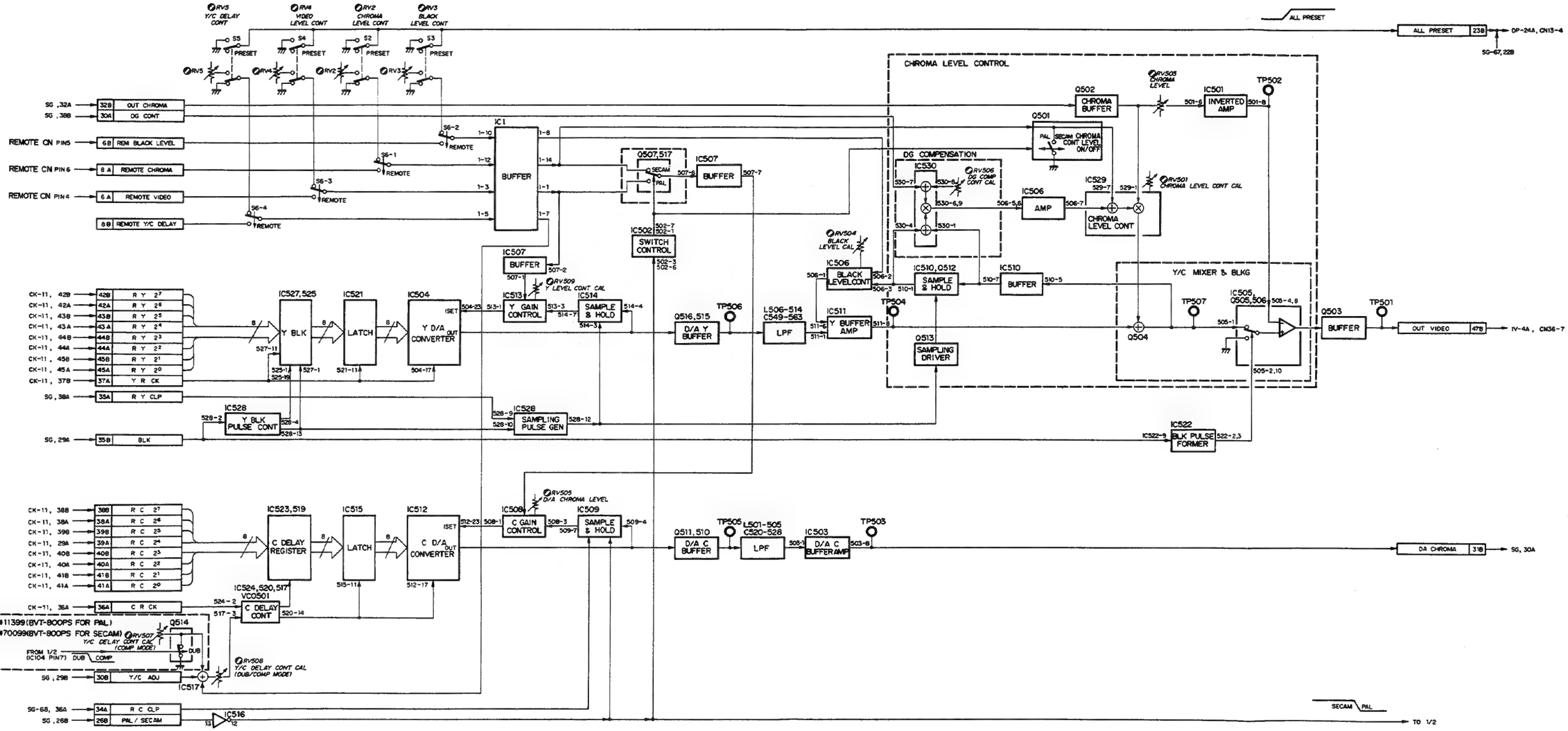


PR-40 BOARD BLOCK DIAGRAM (1/2)

BVT-800PS (FOR PAL)
BVT-800PS (FOR SECAM)

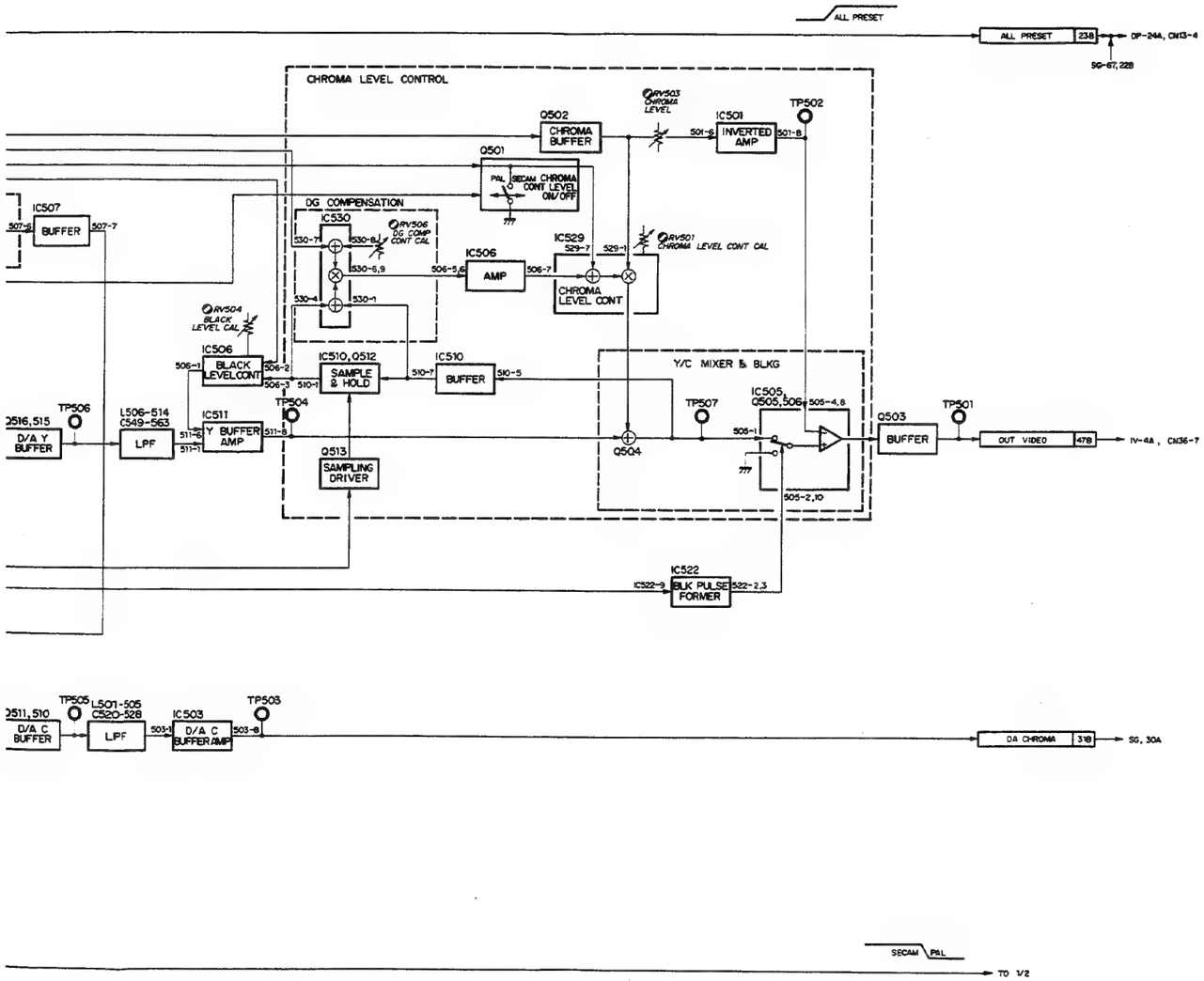
2 PR-40 BOARD (2/2); PROCESSOR

Y D-A Converter
C D-A Converter
Video, Chroma, Black Level Control
Y/C Delay, DG Compensation Control



PR-40 BOARD BLOCK DIAGRAM (2/2)

BVT-800PS (FOR PAL)
BVT-800PS (FOR SECAM)



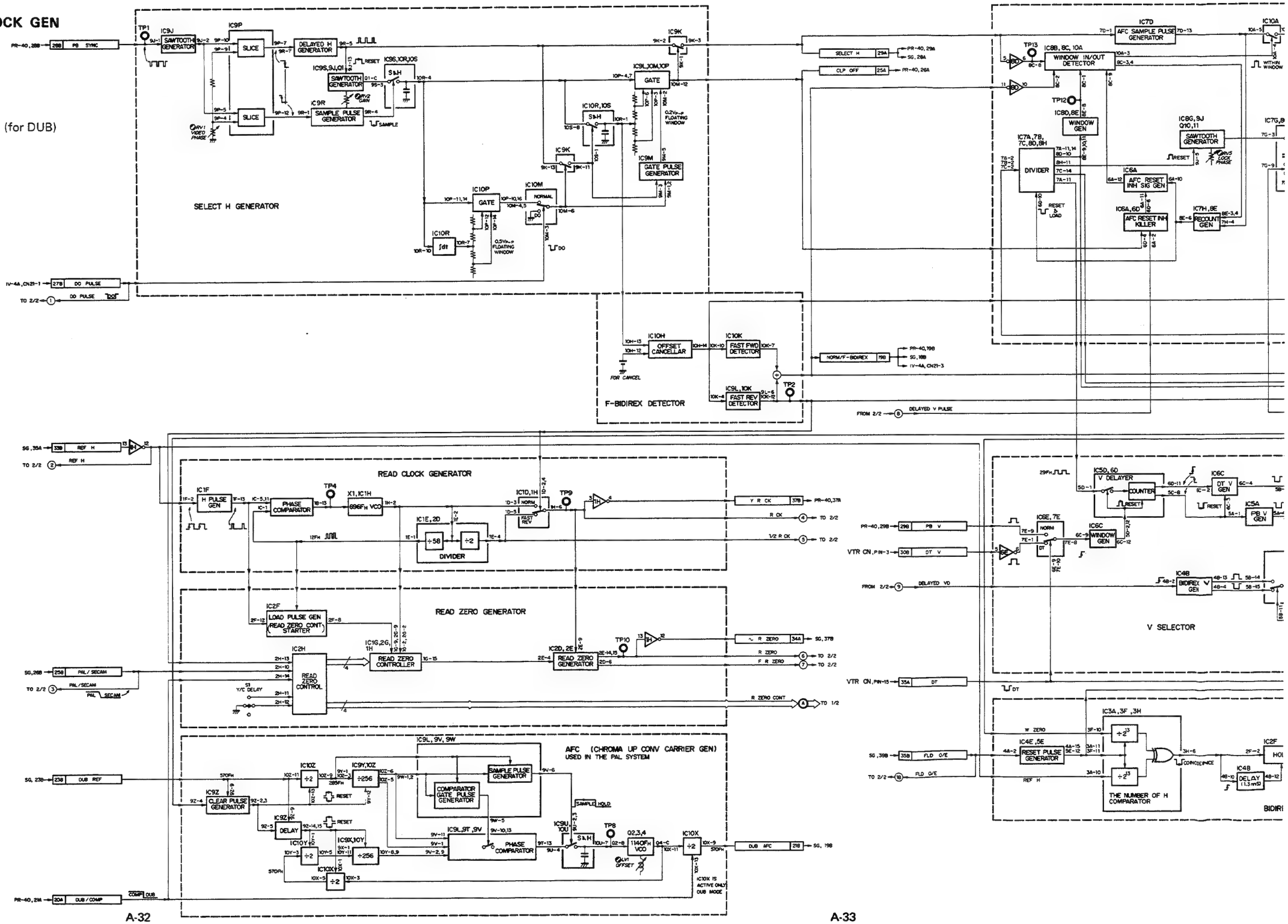
PR-40 BOARD BLOCK DIAGRAM (2/2)

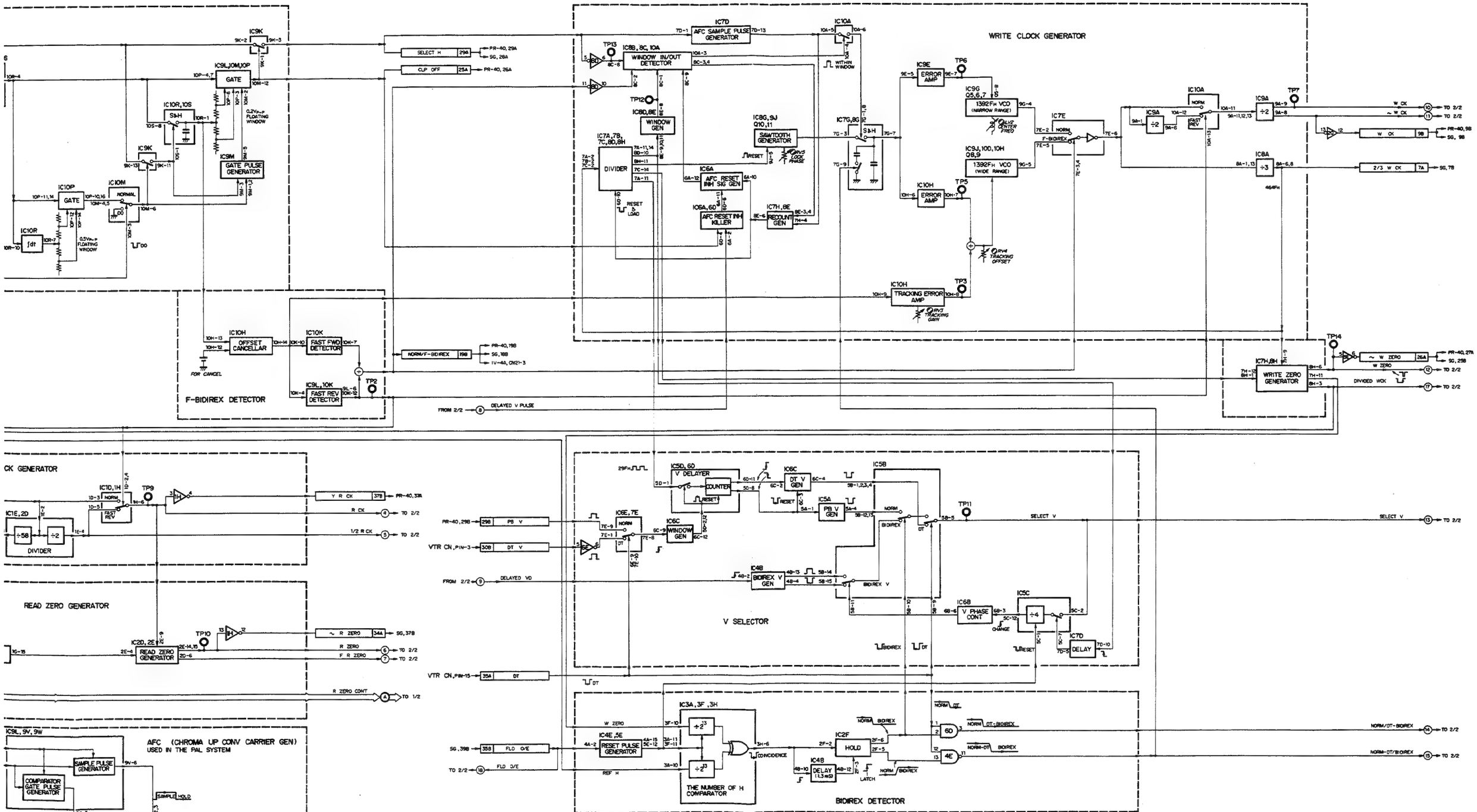
BVT-800PS (FOR PAL)
BVT-800PS (FOR SECAM)

3 BLOCK DIAGRAM CK-11 (1/2) CK-11 (1/2

3 CK-11 BOARD (1/2); CLOCK GEN

- Select H Generator
- F-Bidirex Detector
- Write Clock Generator
- Write Zero Generator
- Read Clock Generator
- Read Zero Generator
- Chroma Up Conv. Carrier Gen. (for DUB)
- V Selector
- Bidirex Detector



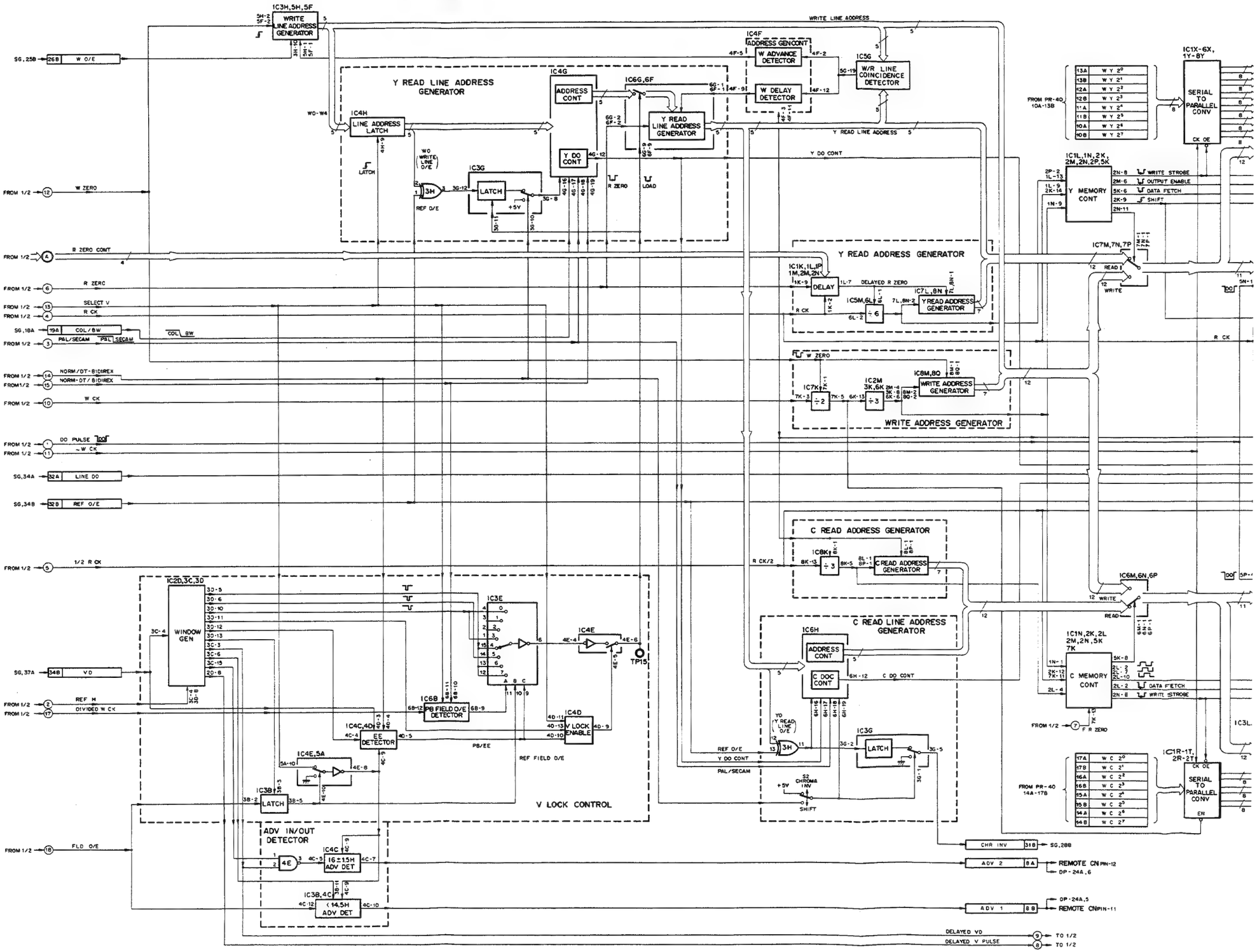


CK-11 BOARD (1/2)
BLOCK DIAGRAM
BVT-800PS (FOR PAL)
BVT-800PS (FOR SECAM)

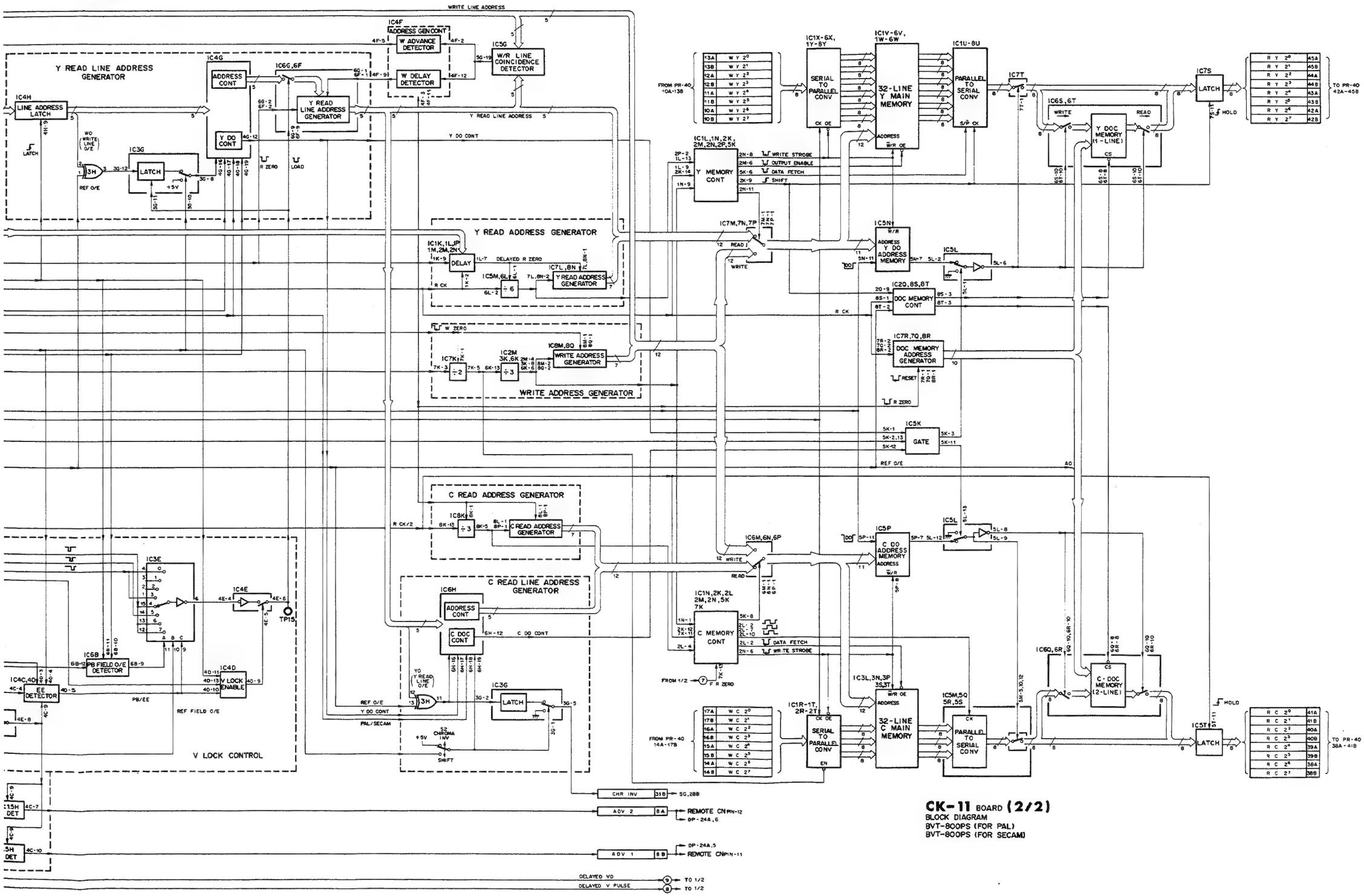
A-33 A-34

3 CK-11 BOARD (2/2); CLOCK GEN

W/R Line Address Generator
Advance Detector
EE Detector
Main Memory W/R Address Generator
32-Line Main Memory
DOC Memory



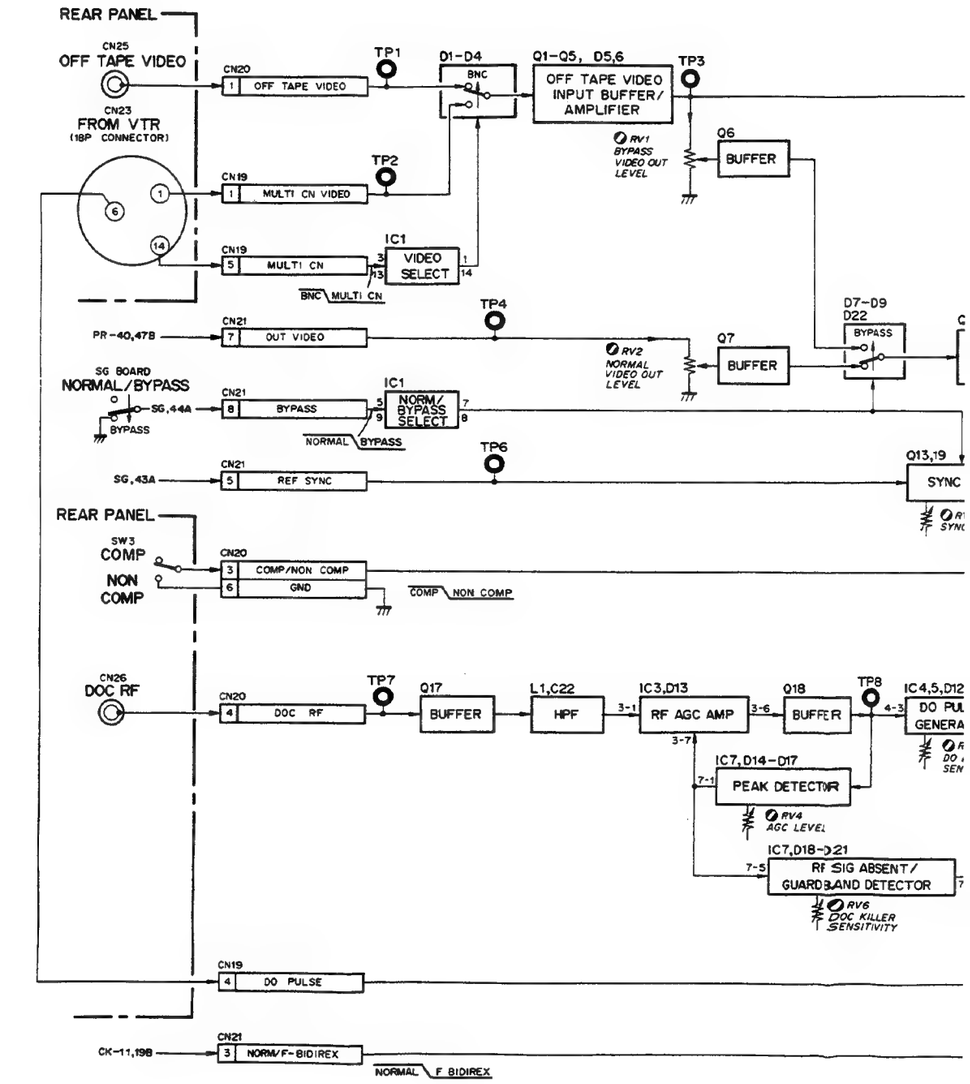
A-35 A-36



CK-11 BOARD **(2/2)**
BLOCK DIAGRAM
BVT-800PS (FOR PAL)
BVT-800PS (FOR SECAM)

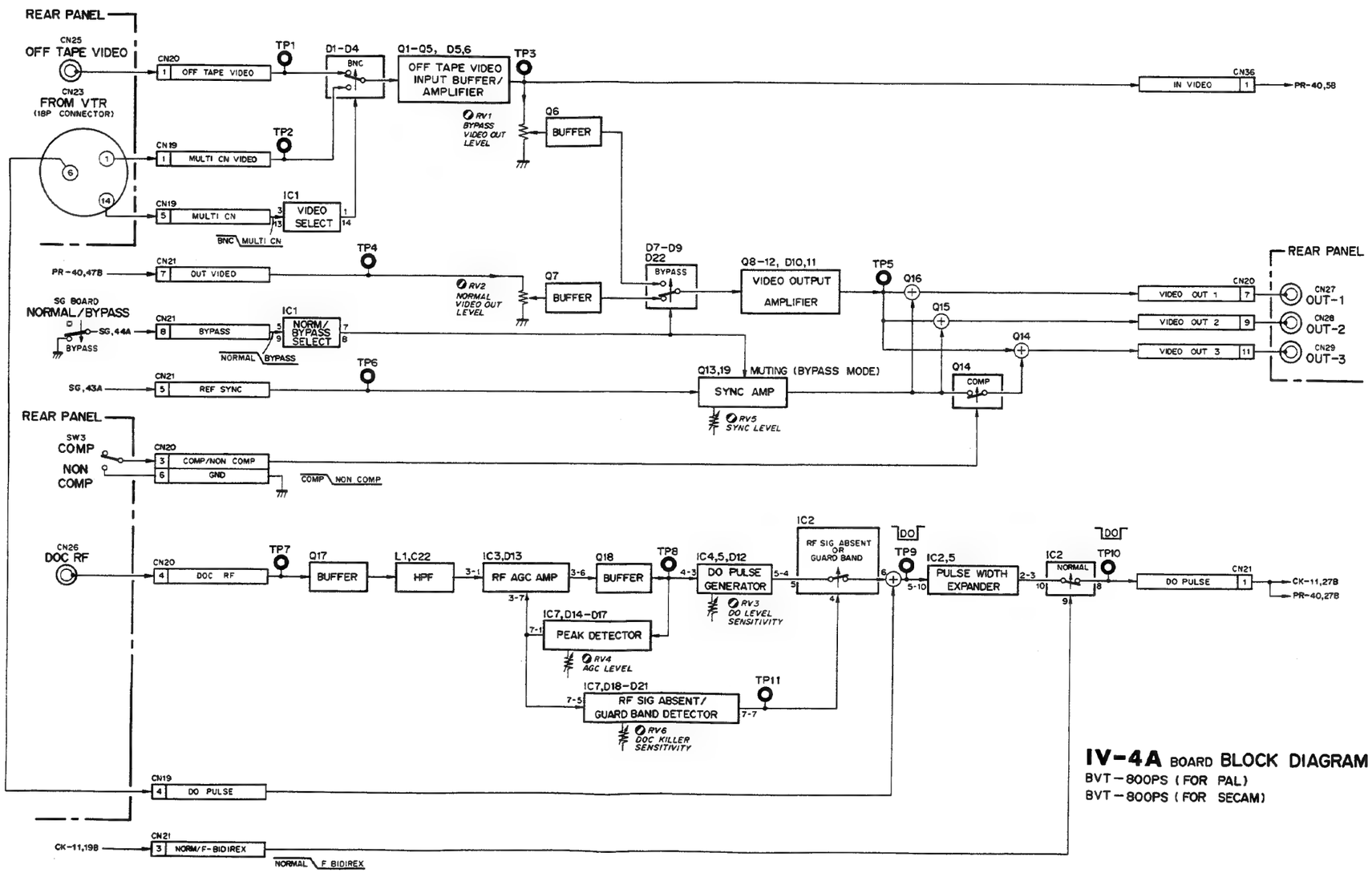
IV-4A BOARD

Video Input Buffer
Video Output Buffer
DO Pulse Generator



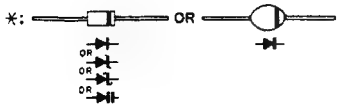
IV-4A BOARD

Video Input Buffer
Video Output Buffer
DO Pulse Generator



IV-4A BOARD BLOCK DIAGRAM
BVT-800PS (FOR PAL)
BVT-800PS (FOR SECAM)

SECTION B
SEMICONDUCTOR PIN ASSIGNMENTS



DIODE, TRANSISTOR

1T25

BOTTOM VIEW

2N2369A
2SC689H

BOTTOM VIEW

2SA530H

ESAC25-02C

ESAC25-02N

2SA772
2SB739

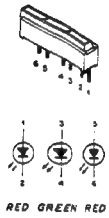
2SA995

ESAD83

2SA1005
2SA1164

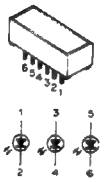
2SA1027R

LD003



RED GREEN RED

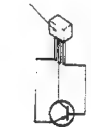
LT9010H
LT9010N



2SA1048
2SA1115
2SA1115R

TYPE NO. IMPRINTED

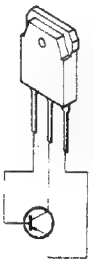
2SA1175
2SA1175F



TLR124; RED

2SB733

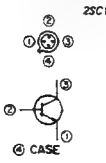
2SB757



2SC1128
2SC2009

BOTTOM VIEW

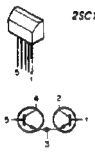
2SC1199



BOTTOM VIEW

2SC1252

2SC1311
2SC2458
2SC2603
2SC2603R
2SC2724



2SC1583

2SC1636

2SC2335

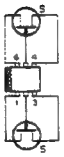
2SC2625
2SD647

TYPE NO. IMPRINTED

2SC2785
2SC2785F

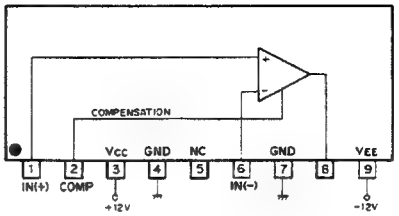
2SD773

2SK43

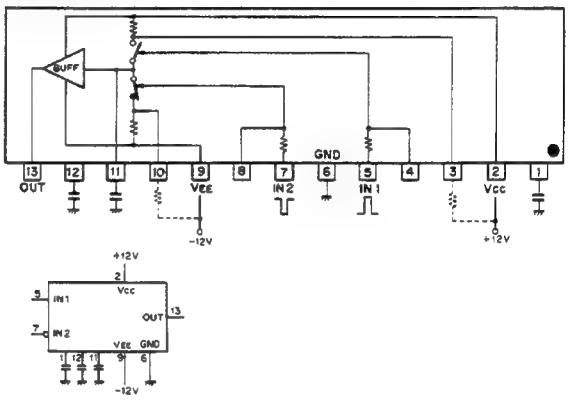


2SK58

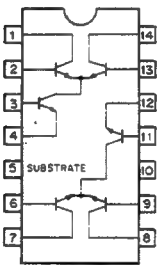
BX365A(SONY)
VIDEO AMPLIFIER
-SIDE VIEW-



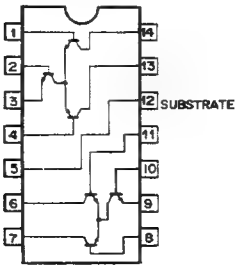
BX381 (SONY)
PHASE COMPARATOR
-SIDE VIEW-



CA3054 (RCA)
DIFFERENTIAL AMPLIFIER
-TOP VIEW-



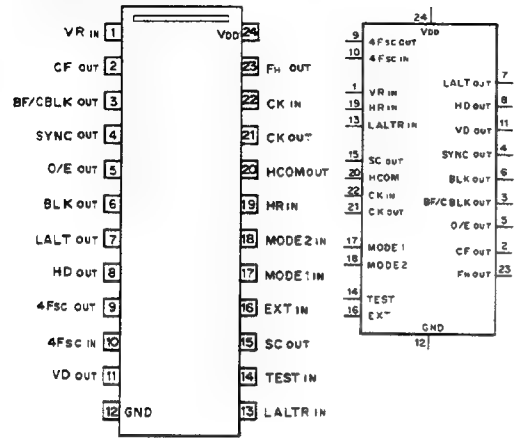
CA3102E(RCA)
HIGH FREQ.DIFFERENTIAL AMPLIFIER
-TOP VIEW-

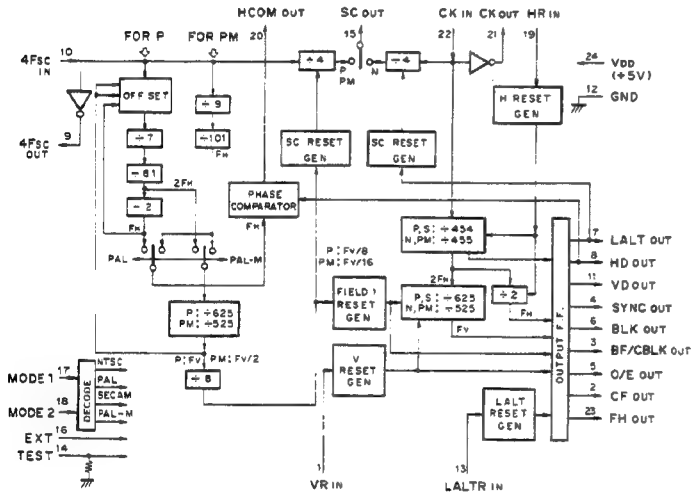


CX773A (SONY)

C-MOS SYNC GENERATOR (NTSC, PAL-M, PAL, SECAM)

—TOP VIEW—





O/E : ODD/EVEN FIELD

CF : COLOR FRAME PULSE

HCOM : H COMPARATOR

SYSTEM	4Fsc	CLOCK
NTSC	910 FH	910 FH
PAL	1135 FH+2Fv	908 FH
PALM	909 FH	910 FH
SECAM	——	908 FH

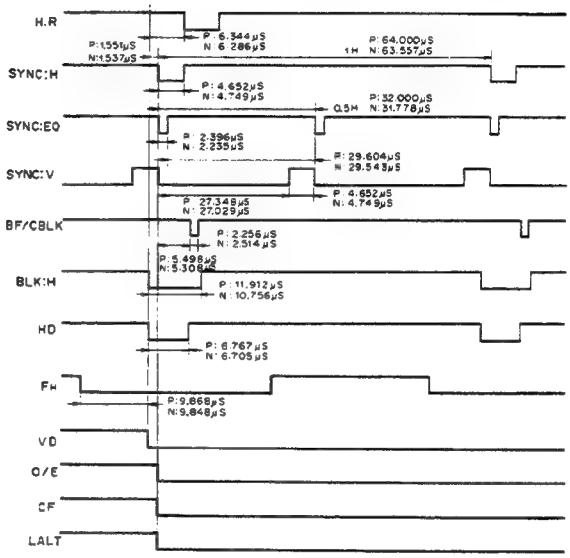
INPUTS		SYSTEM
MODE 1	MODE 2	
0	0	NTSC
0	1	SECAM
1	0	PALM
1	1	PAL

INPUTS		FUNCTION
EXT	TEST	
0	0	INTERNAL
0	1	INVALID
1	0	EXT
1	1	TEST

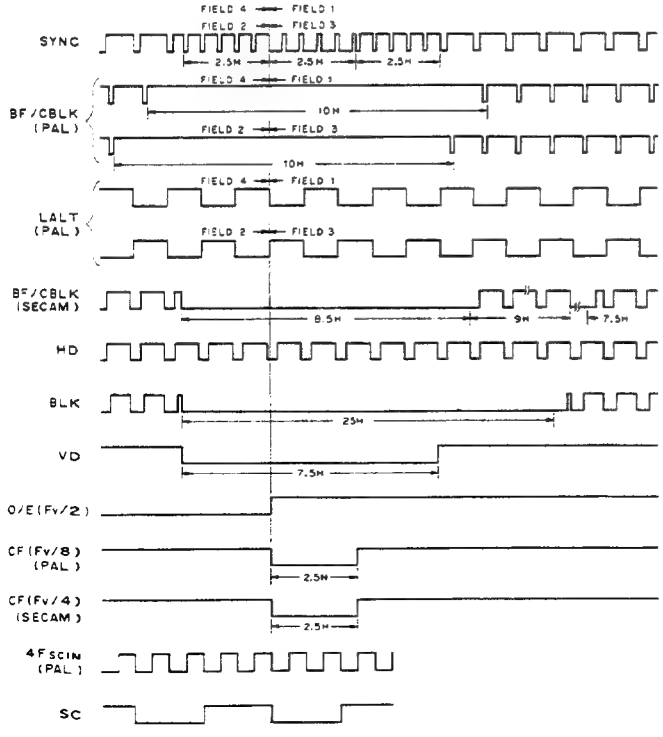
0 ; LOW LEVEL (GND)
1 ; HIGH LEVEL (VDD)

TEST "0" OPEN (INTERNALLY (PULLED DOWN))

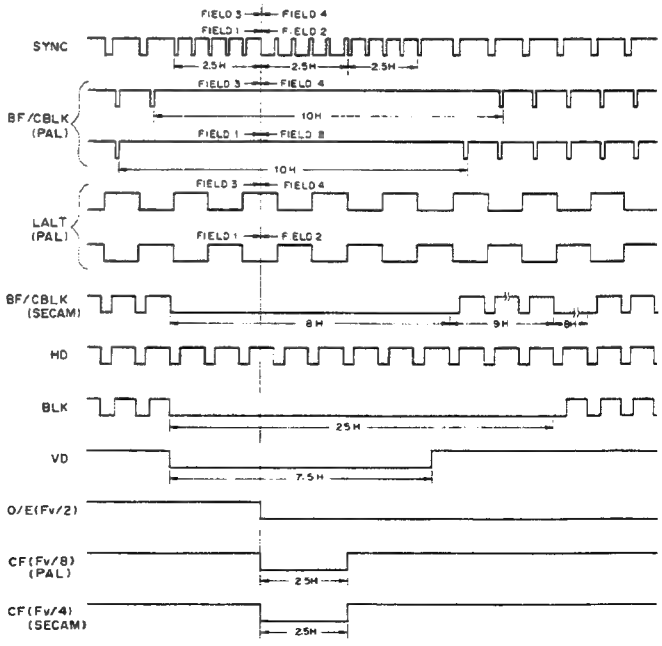
P:PAL, SECAM
N:NTSC, PALM



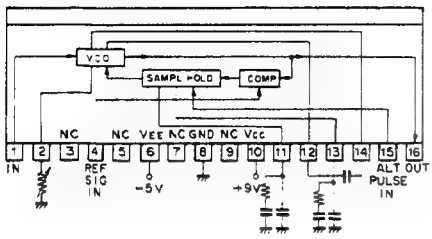
PAL, SECAM (FIELD 1, 3)



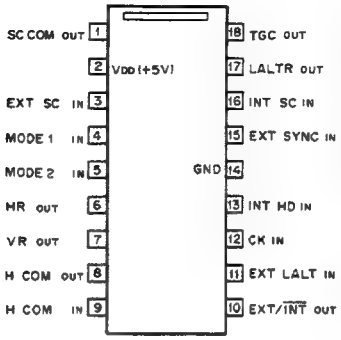
PAL, SECAM (FIELD 4, 2)

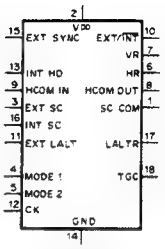


CX852 (SONY)
FREQUENCY MODULATOR
-IMPRINTED SIDE-



CX7903 (SONY)
CMOS GENLOCK DRIVER FOR CX773A
— TOP VIEW —

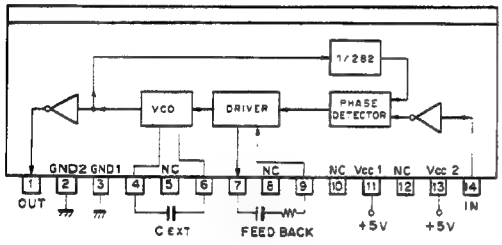


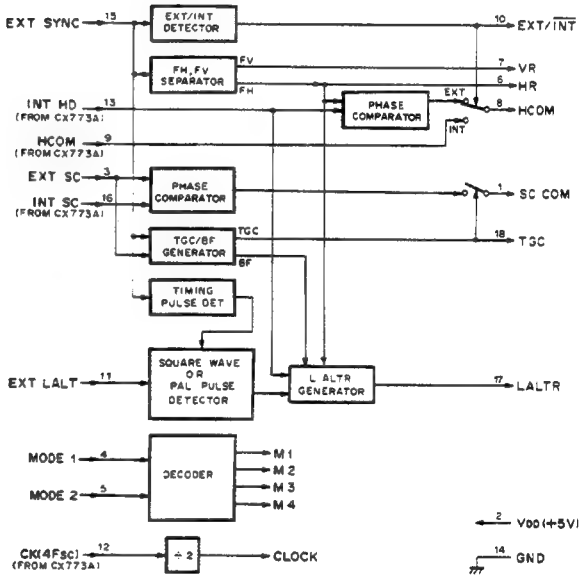


INPUTS		EXT LOCK MODE	
MODE 2	MODE 1		
0	0	M1	PAL: VBS
0	1	M2	PALM: VBS
1	0	M3	PAL: VS/SC/LALT
			SECAM: VS/SC/LALT
1	1	M4	NTSC: VBS
			NTSC: VS/SC
			PALM: VS/SC/LALT

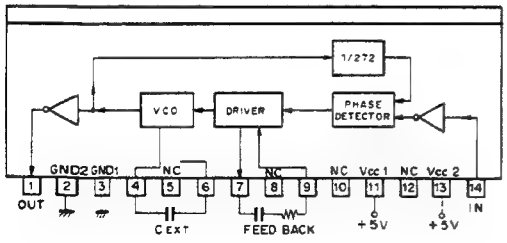
0 ; LOW LEVEL
1 ; HIGH LEVEL

CX854 (SONY)
282-TIME MULTIPLIER
-IMPRINTED SIDE-

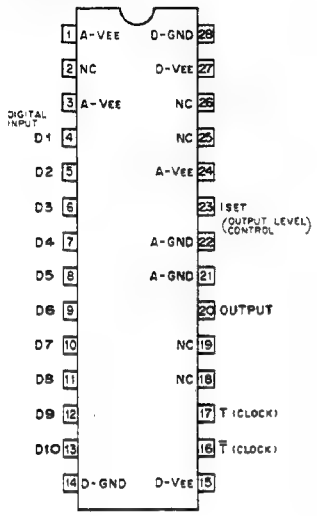


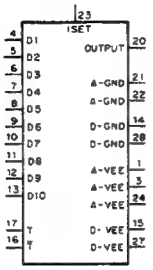


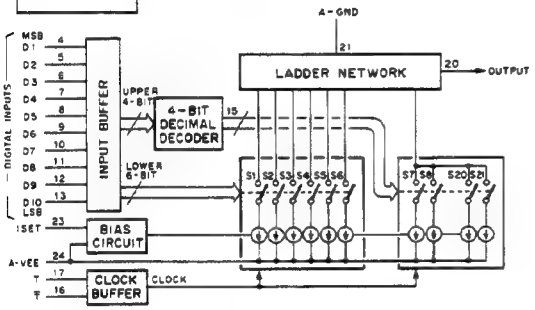
CX855 (SONY)
272-TIME MULTIPLIER
-IMPRINTED SIDE-



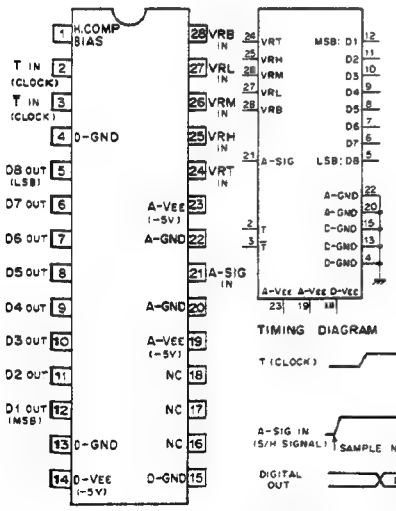
CX20051 (SONY)
CX20051A (SONY)
10-BIT D/A CONVERTER (ECL INPUT)
-TOP VIEW-







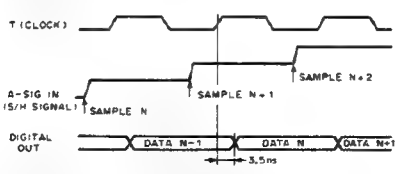
CX20052 (SONY)
8-BIT FEED-FORWARD TYPE A/D CONVERTER (ECL OUTPUT)
—TOP VIEW—



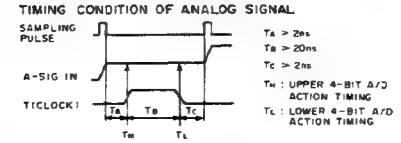
OUTPUT CODING

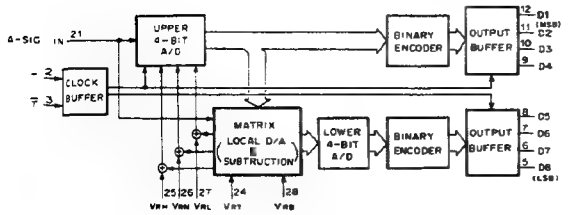
STEP	RANGE EX. 2.000V FULL SCALE	OUTPUTS MSB	LSB
000	0.0000V	11111111	
001	-0.0078V	11111110	
127	-0.9961V	10000000	
128	-1.0039V	01111111	
129	-1.0118V	01111110	
255	-2.0000V	00000000	

TIMING DIAGRAM

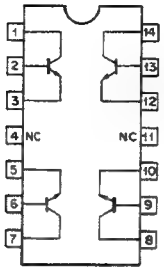


TIMING CONDITION OF ANALOG SIGNAL

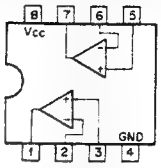




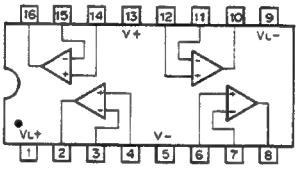
FT5709M (FUJITSU)
TRANSISTOR ARRAY
—TOP VIEW—



HA17458GS (HITACHI)
LM1458N (NSC)
OPERATIONAL AMPLIFIER
— TOP VIEW —



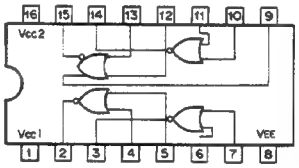
HA1-4905 (HARRIS)
VOLTAGE COMPARATOR
- TOP VIEW -

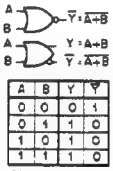


NOTE: V+ AND V- DETERMINE THE ALLOWABLE INPUT SIGNAL RANGE.

VL+ AND VL- DETERMINE THE OUTPUT SWING.

HD10102 (HITACHI)
MC10102L (MOTOROLA)
ECL 2-INPUT NOR GATE
—TOP VIEW—

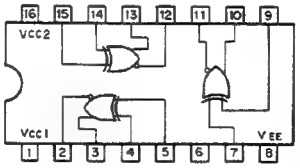


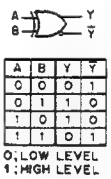


A	B	Y	$\overline{Y}$
0	0	0	1
0	1	1	0
1	0	1	0
1	1	1	0

0; LOW LEVEL
1; HIGH LEVEL

HD10107 (HITACHI)
MC10107L (MOTOROLA)
ECL EXCLUSIVE OR/NOR GATE
-TOP VIEW-

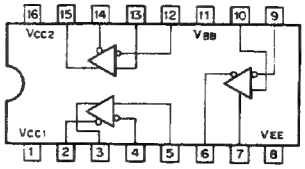




A	B	Y	$\overline{Y}$
0	0	0	1
0	1	1	0
1	0	1	0
1	1	0	1

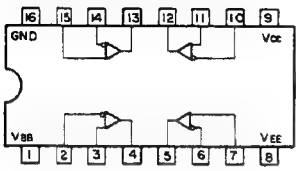
0; LOW LEVEL
1; HIGH LEVEL

HD10116 (HITACHI)
MC10116L (MOTOROLA)
ECL DIFFERENTIAL OR/NOR LINE RECEIVER
-TOP VIEW-



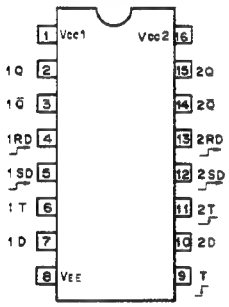
HD10125 (HITACHI)
MC10125L (MOTOROLA)
ECL ECL-TO-TTL TRANSLATOR

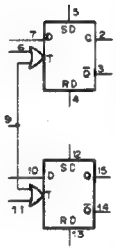
—TOP VIEW—



HD10131 (HITACHI)
MC10131L (MOTOROLA)
ECL D-TYPE FLIP FLOP

—TOP VIEW—

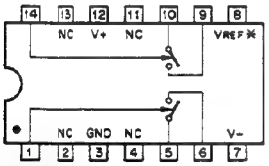




INPUTS				OUTPUTS	
SD	RD	T	D	Qn+1	Q̄n+1
1	0	X	X	1	0
0	1	X	X	0	1
1	1	X	X	ND	ND
0	0	↑	1	1	0
0	0	↑	0	0	1
0	0	0	X	Qn	Q̄n

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
ND ; NOT DEFINED

HI1-200-5 (HARRIS)
C-MOS ANALOG SWITCH
—TOP VIEW—



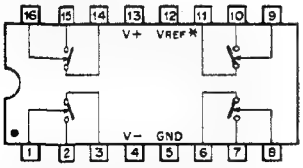
CONT IN	SW
0	
1	

0 : LOW LEVEL
1 : HIGH LEVEL

*NOTE

INTERFACE	VREF CONNECTION
TTL	OPEN
C-MOS	VDD ≦ 5.5V : OPEN
	VDD > 5.5V : TO VDD

HI1-201 (HARRIS)
C-MOS ANALOG SWITCH
—TOP VIEW—



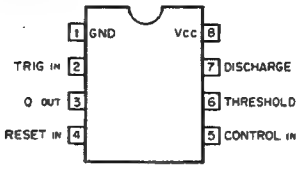
CONT IN	SW
0	
1	

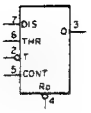
0 ; LOW LEVEL
1 ; HIGH LEVEL

*NOTE

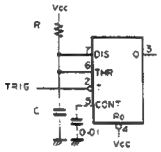
INTERFACE	VREF CONNECTION
TTL	OPEN
C-MOS	VDD ≦ 5.5V ; OPEN
	VDD > 5.5V ; TO VDD

M51841P (MITSUBISHI)
NE555N (SIGNETICS)
TIMER
—TOP VIEW—



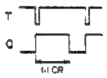


MONOSTABLE MULTIVIBRATOR

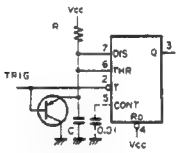


INPUTS		OUT
Rd	T	Q
0	X	0
1	↓	↑

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

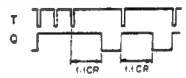


RETRIGGERABLE MONO. MULTIVIBRATOR
(MISSING PULSE DETECTOR)

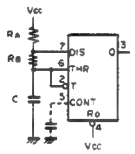


INPUTS		OUT
Rd	T	Q
0	X	0
1	↓	↑

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

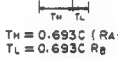


ASTABLE MULTIVIBRATOR



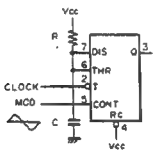
Rd	Q
0	0
1	

0 ; LOW LEVEL
1 ; HIGH LEVEL

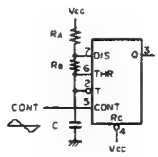


TH = 0.693C (RA+RB)
TL = 0.693C RB

PULSE WIDTH MODULATOR



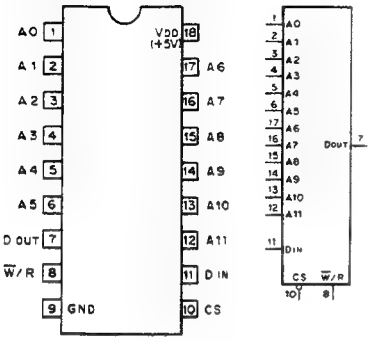
VCO
(PULSE POSITION MODULATOR)



MB8147E (FUJITSU) (ACCESS TIME = 70nS)

N-MOS 4096-BIT STATIC RAM

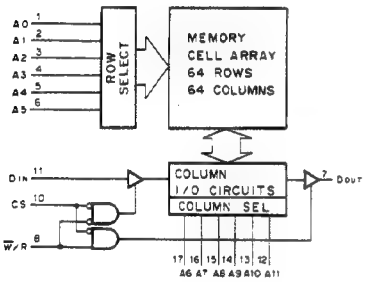
-TOP VIEW-



CS	W/R	MODE
0	0	WRITE
0	1	READ
1	X	INHIBIT (OUTPUT; HI-Z)

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI-Z; HIGH IMPEDANCE

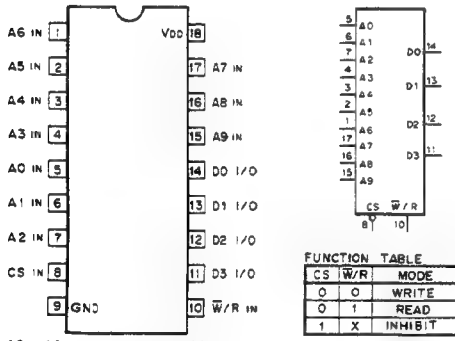
A0 - A11 ; ADDRESS INPUTS
CS ; CHIP SELECT INPUT
W/R ; WRITE/READ ENABLE INPUT



MBM2149L-55 (FUJITSU)

N-MOS 4096-BIT(1024 x 4) STATIC RAM WITH 3-STATE OUTPUT

-TOP VIEW-

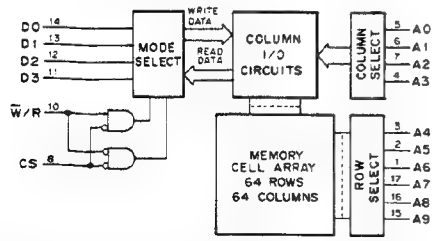


FUNCTION TABLE

CS	W/R	MODE	I/O
0	0	WRITE	INPUT
0	1	READ	OUTPUT
1	X	INHIBIT	HIGH Z

A0 - A9 ; ADDRESS INPUTS
CS ; CHIP SELECT INPUT
D0 - D3 ; DATA INPUT/OUTPUT (3-STATE)
W/R ; WRITE/READ ENABLE INPUT

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HIGH Z ; HIGH IMPEDANCE

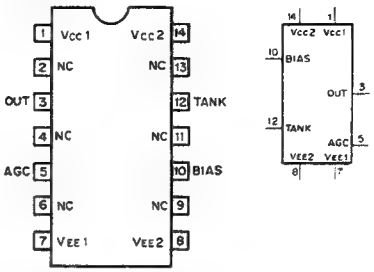


TYPE	-45	-55	-70	L-55	L-70
ADDRESS ACCESS TIME (MAX)	45nS	55nS	70nS	55nS	70nS
CHIP SELECT ACCESS TIME (MAX)	20nS	25nS	30nS	25nS	30nS
Icc (MAX)	180mA	180mA	180mA	125mA	125mA

MC1648P (MOTOROLA)

VOLTAGE CONTROLLED OSCILLATOR

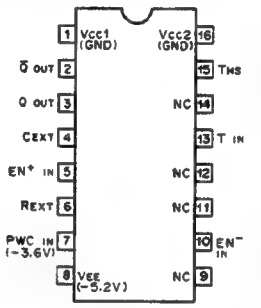
-TOP VIEW-



MC10198L (MOTOROLA)

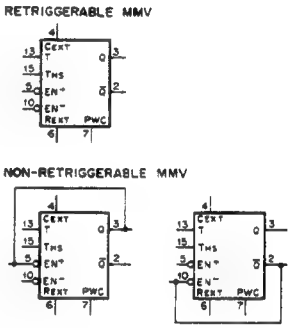
RETRIGGERABLE MONOSTABLE MULTIVIBRATOR

-TOP VIEW-



RETRIGGERABLE MMV

NON-RETRIGGERABLE MMV



T : CLOCK TRIGGER INPUT
THS : HIGH-SPEED CLOCK TRIGGER INPUT
EN+ : TRIGGER POSITIVE ENABLE
EN- : TRIGGER NEGATIVE ENABLE
PWC : EXTERNAL PULSE WIDTH CONTROL

FUNCTION TABLE

EN+	EN-	TRIG. SLOPE
0	0	⌐¬
0	1	⌐¬
1	0	⌐¬
1	1	DISABLE

0; LOW LEVEL
1; HIGH LEVEL

OUTPUT PULSE WIDTH : PWQ

PWQ = 1.19 · CEXT (REXT + 284)

WHERE

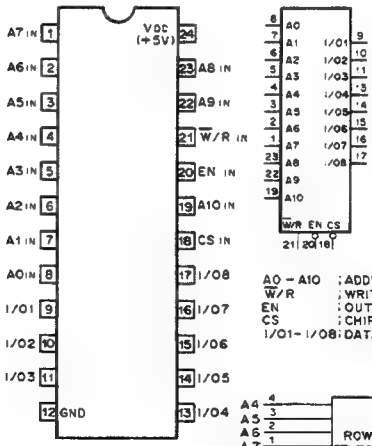
PWQ = SEC
CEXT = FARADS
REXT = OHMS
VEE = -5.2V
PWC = -3.6V

NOTE ; · SELECT REXT RANGING FROM ZERO TO 15K OHMS.
· SELECT CEXT GREATER THAN 20PF.

MSM5128-12RS (OKI) (ACCESS TIME = 120nS)
HM6116LP-2 (HITACHI) (ACCESS TIME = 120 nS)

C-MOS 16384(2048 x 8)-BIT HIGH SPEED STATIC RAM

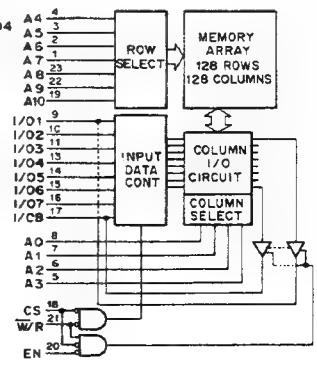
-TOP VIEW-



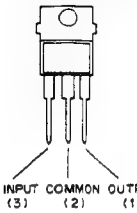
INPUTS			FUNCTION
CS	W/R	EN	
0	0	X	WRITE
0	1	0	READ
0	1	1	DISABLE (OUTPUT=HI-Z)
1	X	X	DISABLE (OUTPUT=HI-Z)

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE

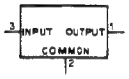
A0 - A10 ; ADDRESS INPUTS
W/R ; WRITE/READ ENABLE
EN ; OUTPUT ENABLE
CS ; CHIP SELECT
I/O1 - I/O8 ; DATA INPUTS/OUTPUTS



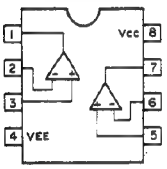
NJM78M□□A (JRC)
VOLTAGE REGULATOR
—FRONT VIEW —



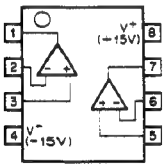
5V	NJM78M05A
6V	NJM78M06A
8V	NJM78M08A
9V	NJM78M09A
12V	NJM78M12A
15V	NJM78M15A
18V	NJM78M18A
20V	NJM78M20A
24V	NJM78M24A



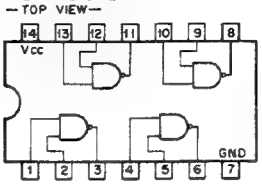
NJM4558D (JRC)
RC4558 (RAYTHEON)
μPC4558C (NEC)
OPERATIONAL AMPLIFIER
-TOP VIEW-

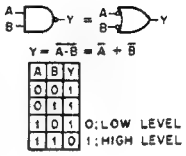


NJM4560D (JRC)
OPERATIONAL AMPLIFIER
-TOP VIEW-



SN7400N (TI)
M53200P (MITSUBISHI)
SN74S00N (TI)
SN74LS00N (TI)
HD74LS00P (HITACHI)
SN74ALS00N (TI)
TTL NAND GATE
—TOP VIEW—

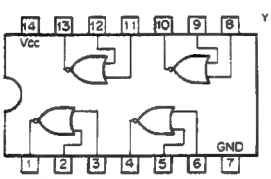


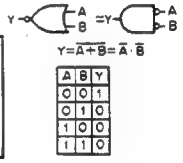


A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

0:LOW LEVEL
1:HIGH LEVEL

SN7402N (TI)
M53202P (MITSUBISHI)
SN74S02N (TI)
SN74LS02N (TI)
HD74LS02P (HITACHI)
TTL 2-INPUT POSITIVE-NOR GATE
—TOP VIEW —

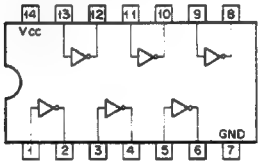


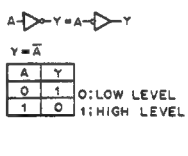


A	B	Y
0	0	1
0	1	0
1	0	0
1	1	0

0:LOW LEVEL
1:HIGH LEVEL

SN7404N (TI)
M53204P (MITSUBISHI)
SN74L04N (TI)
SN74S04N (TI)
SN74LS04N (TI)
HD74LS04P (HITACHI)
TTL INVERTER
—TOP VIEW—

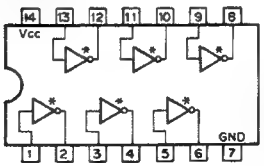


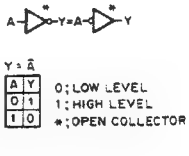


A	Y
0	1
1	0

0:LOW LEVEL
1:HIGH LEVEL

SN7406N (TI)
M53206P (MITSUBISHI)
TTL INVERTER BUFFER/DRIVER
WITH OPEN-COLLECTOR
—TOP VIEW—

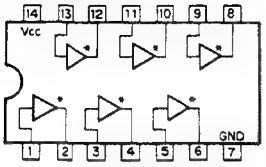




A	Y
0	1
1	0

0;LOW LEVEL
1;HIGH LEVEL
*;OPEN COLLECTOR

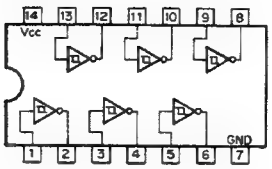
SN7407N (TI)
TTL BUFFER / DRIVER
WITH OPEN - COLLECTOR
— TOP VIEW —

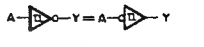


A	Y
0	0
1	*

0 ; LOW LEVEL
1 ; HIGH LEVEL
* ; OPEN COLLECTOR

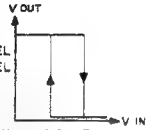
SN7414N (TI)
SN74LS14N (TI)
TTL SCHMITT TRIGGER INVERTER
— TOP VIEW —





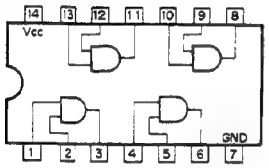
A	Y
0	1
1	0

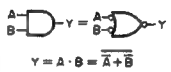
0 ; LOW LEVEL
1 ; HIGH LEVEL



SN7414N-----0.9 1.7V
SN74LS14N---0.8 1.6V

SN7408N (TI)
SN74S08N (TI)
SN74LS08N (TI)
HD74LS08P (HITACHI)
TTL 2-INPUT POSITIVE-AND GATE
— TOP VIEW —

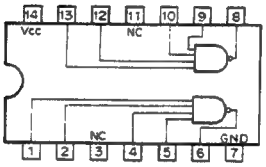


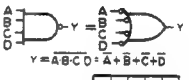


A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

0; LOW LEVEL
1; HIGH LEVEL

SN7420N (TI)
SN74S20N (TI)
SN74LS20N (TI)
TTL 4-INPUT POSITIVE NAND GATE
— TOP VIEW —

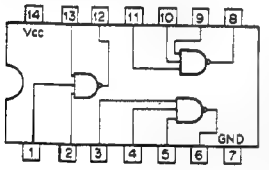


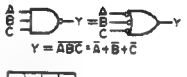


A	B	C	D	Y
0	0	0	0	1
0	0	0	1	1
0	0	1	0	1
0	0	1	1	1
0	1	0	0	1
:	:	:	:	:
1	1	0	1	1
1	1	1	0	1
1	1	1	1	0

0; LOW LEVEL
1; HIGH LEVEL

SN7410N (TI)
SN74L10N (TI)
SN74S10N (TI)
SN74LS10N (TI)
HD74LS10P (HITACHI)
TTL 3-INPUT POSITIVE NAND GATE
— TOP VIEW —

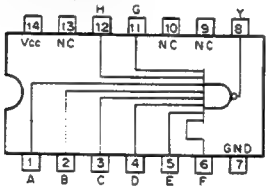


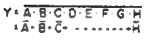


A	B	C	Y
0	0	0	1
0	0	1	1
0	1	0	1
0	1	1	1
1	0	0	1
1	0	1	1
1	1	0	1
1	1	1	0

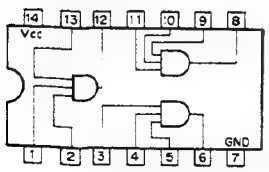
0 : LOW LEVEL
1 : HIGH LEVEL

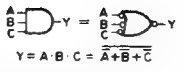
SN7430N (TI)
SN74S30N (TI)
SN74LS30N (TI)
HD74LS30P (HITACHI)
TTL 8-INPUT NAND GATE
— TOP VIEW —





SN74H11N (TI)
SN74S11N (TI)
SN74LS11N (TI)
TTL 3-INPUT POSITIVE-AND GATE
— TOP VIEW —

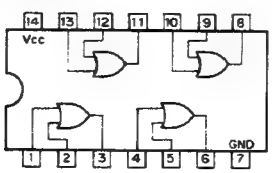


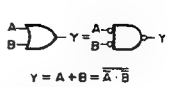


A	B	C	Y
0	0	0	0
0	0	1	0
0	1	0	0
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	1

0;LOW LEVEL
1;HIGH LEVEL

SN 7432N (TI)
SN 74S32N (TI)
SN 74LS32N (TI)
HD 74LS32P (HITACHI)
M874LS32 (FUJITSU)
M74LS32P (MITSUBISHI)
TTL 2-INPUT POSITIVE - OR GATE
— TOP VIEW —

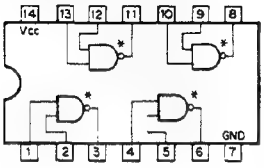


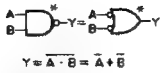


A	B	Y
0	0	0
0	1	1
1	0	1
1	1	1

0:LOW LEVEL
1:HIGH LEVEL

SN7438N (TI)
SN74S38N (TI)
SN74LS38N (TI)
TTL 2-INPUT POSITIVE-NAND GATE BUFFER WITH OPEN-COLLECTOR
— TOP VIEW —

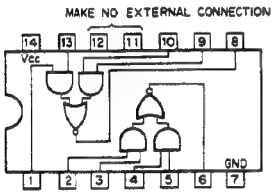


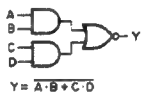


A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

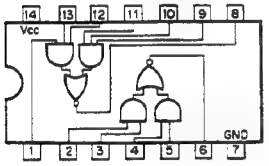
0 ; LOW LEVEL
1 ; HIGH LEVEL
* ; OPEN COLLECTOR

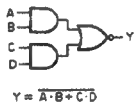
SN7451N (TI)
SN74H51N (TI)
SN74S51N (TI)
TTL 2-WIDE 2-INPUT AND-OR-INVERT GATE
— TOP VIEW —

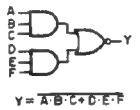




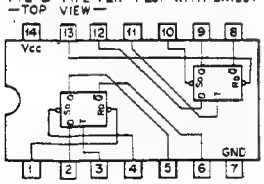
SN74LS51N(TI)
SN74L51N (TI)
TTL 2-WIDE 2-INPUT / 3-INPUT AND-OR-INVERT GATE
— TOP VIEW —







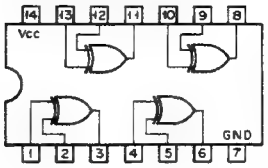
SN7474N (TI)
M53274P (MITSUBISHI)
SN74H74N (TI)
SN74L74N (TI)
SN74S74N (TI)
SN74LS74AN (TI)
HD74LS74P (HITACHI)
TTL D-TYPE FLIP FLOP WITH DIRECT SET/RESET
—TOP VIEW—



INPUTS				OUTPUTS	
Sc	Rd	T	D	Qn+1	Q̄n+1
0	1	X	X	1	0
1	0	X	X	0	1
0	0	X	X	1*	1*
1	1	↑	1	1	0
1	1	↑	0	0	1
1	1	0	X	Qn	Q̄n

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
1* ; NONSTABLE

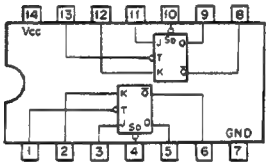
SN7486N (TI)
SN74S86N (TI)
SN74LS86N (TI)
HD74LS86P (HITACHI)
TTL EXCLUSIVE OR GATE
— TOP VIEW —



A	B	Y
0	0	0
0	1	1
1	0	1
1	1	0

0 ; LOW LEVEL
1 ; HIGH LEVEL

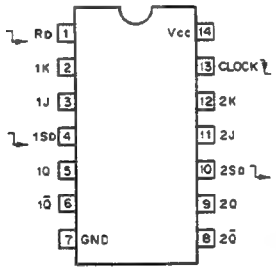
SN74S113N (TI)
SN74LS113N (TI)
SN74LS113AN (TI)
TTL J-K FILP FLOP WITH DIRECT SET
—TOP VIEW—

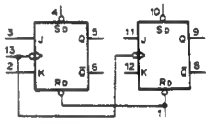


INPUTS				OUTPUTS	
Sd	T	J	K	Qn+1	Q̄n+1
0	X	X	X	1	0
1	↓	0	0	Qn	Q̄n
1	↓	0	1	0	1
1	↓	1	0	1	0
1	↓	1	1	Q̄n	Qn
1	1	X	X	Qn	Q̄n

0 ; LOW LEVEL X ; DON'T CARE
1 ; HIGH LEVEL

SN74S114N (TI)
SN74LS114AN (TI)
SN74ALS114N (TI)
TTL J-K FLIP-FLOP WITH DIRECT SET/RESET
— TOP VIEW —

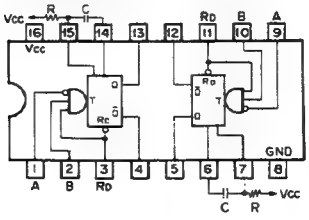




INPUTS					OUTPUTS	
SD	RD	CK	J	K	Qn+1	Q̄n+1
0	1	X	X	X	1	0
1	0	X	X	X	0	1
0	0	X	X	X	1*	1*
1	1	↓	0	0	Qn	Q̄n
			0	1	0	1
			1	0	1	0
			1	1	Q̄n	Qn
:	1	1	X	X	Qn	Q̄n

0 ; LOW LEVEL X ; DON'T CARE
1 ; HIGH LEVEL * ; NONSTABLE

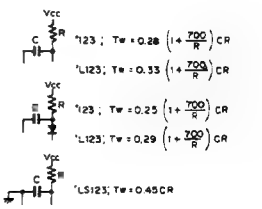
SN74123N (TI)
SN74L123N (TI)
SN74LS123N (TI)
SN74LS123NS(TI)
HD74LS123P (HITACHI)
TTL RETRIGGERABLE MONOSTABLE MULTIVIBRATOR WITH DIRECT RESET
— TOP VIEW —



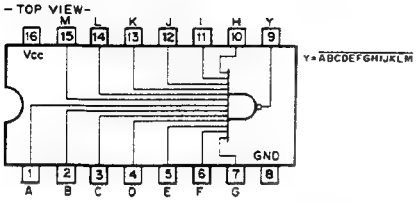
INPUTS			OUTPUTS	
Rd	A	B	Q	Q̄
0	X	X	0	1
X	1	X	0	1
X	X	0	0	1
1	0	↑	⊓	⊔
1	↓	1	⊓	⊔
↑	0	1	⊓	⊔

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

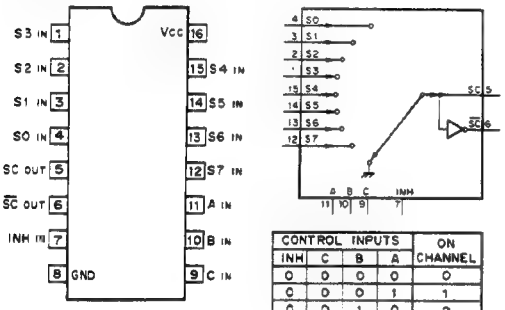
OUTPUT PULSE WIDTH



SN74S133N (TI)
TTL 13-INPUT NAND GATE
-TOP VIEW-



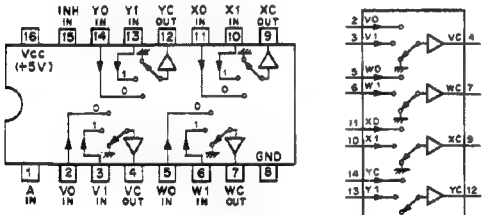
SN74151AN (TI)
SN74S151N (TI)
SN74LS151N (TI)
TTL 8-LINE-TO-1-LINE DATA SELECTOR/MULTIPLEXER
-TOP VIEW-



CONTROL INPUTS				ON CHANNEL
INH	C	B	A	
0	0	0	0	0
0	0	0	1	1
0	0	1	0	2
0	0	1	1	3
0	1	0	0	4
0	1	0	1	5
0	1	1	0	6
0	1	1	1	7
1	X	X	X	GND

0;LOW LEVEL
1;HIGH LEVEL
X;DON'T CARE

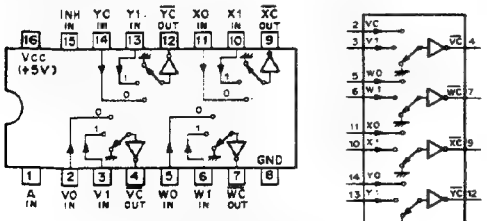
SN74S157N (TI)
TTL 2-LINE-TO-1-LINE DATA SELECTOR/MULTIPLEXER
— TOP VIEW —



CONT. IN		ON CHANNEL
INH	A	
0	0	0
0	1	1
1	X	GND

0;LOW LEVEL
1;HIGH LEVEL
X;DON'T CARE

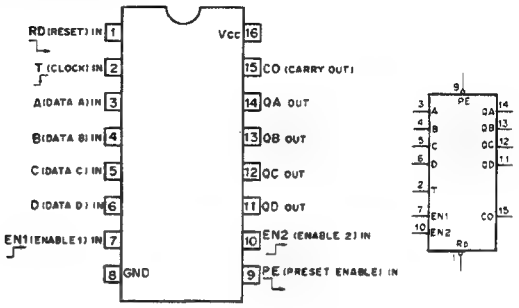
SN74LS158N (TI)
SN74S158N (TI)
TTL 2-LINE-TO-1-LINE INVERTED DATA SELECTOR/MULTIPLEXER
— TOP VIEW —



CONT. IN		ON CHANNEL
INH	A	
0	0	0
0	1	1
1	X	GND

0;LOW LEVEL
1;HIGH LEVEL
X;DON'T CARE

SN74161N (TI)
SN74LS161AN (TI)
HD74LS161P (HITACHI)
TTL PRESETTABLE SYNCHRONOUS 4-BIT BINARY COUNTER
— TOP VIEW —



MODE SELECTION

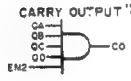
CONTROL INPUTS				MODE
RD	PE	EN1	EN2	
0	X	X	X	RESET (ASYNCHRONOUS)
1	0	X	X	PRESET (SYNCHRONOUS)
1	1	0	X	NO COUNT
1	1	X	0	NO COUNT
1	1	1	1	COUNT

0;LOW LEVEL
1;HIGH LEVEL
X;DON'T CARE

COUNT SEQUENCE

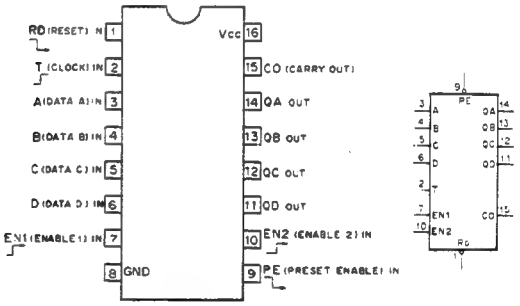
COUNT	OUTPUTS			
	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

CARRY OUTPUT "CO"



CO IS HIGH WHEN EN2 INPUT IS HIGH AND COUNT IS "15".

SN74163N (TI)
SN74S163N (TI)
SN74LS163AN (TI)
HD74LS163P (HITACHI)
TTL PRESETTABLE SYNCHRONOUS 4-BIT BINARY COUNTER
— TOP VIEW —



MODE SELECTION

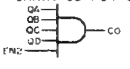
CONTROL INPUTS				MODE
RD	PE	EN1	EN2	
0	X	X	X	RESET (SYNCHRONOUS)
1	0	X	X	PRESET (SYNCHRONOUS)
1	1	0	X	NO COUNT
1	1	X	0	NO COUNT
1	1	1	1	COUNT

0;LOW LEVEL
1;HIGH LEVEL
X;DON'T CARE

COUNT SEQUENCE

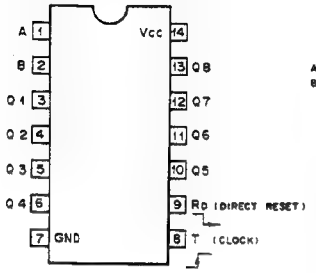
COUNT	OUTPUTS			
	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

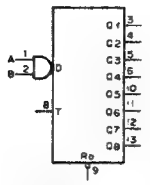
CARRY OUTPUT "CO"



CO IS HIGH WHEN EN2 INPUT IS HIGH AND COUNT IS "15".

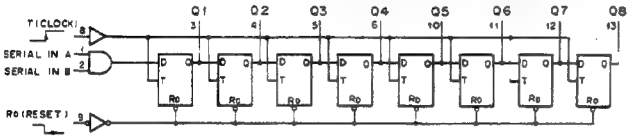
SN74164N (TI)
SN74L164N (TI)
SN74LS164N (TI)
HD74LS164P (HITACHI)
TTL 8-BIT PARALLEL-OUT SERIAL SHIFT REGISTER
—TOP VIEW—



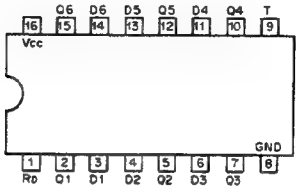


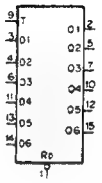
INPUTS				OUTPUTS			
Rd	T	A	B	Q1	Q2	----	Q8
0	X	X	X	0	0	0	0
1	0	X	X	Q1o	Q2o	----	Q8o
1	∫	1	1	1	Q1n	----	Q7n
1	∫	0	X	0	Q1n	----	Q7n
1	∫	X	0	0	Q1n	----	Q7n

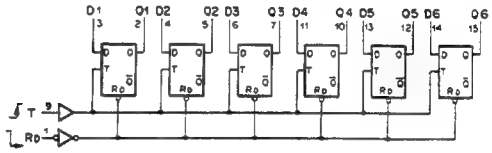
0;LOW LEVEL
1;HIGH LEVEL
X;DON'T CARE



SN74174N (TI)
SN74S174N (TI)
SN74LS174N(TI)
HD74LS174P(HITACHI)
MB74LS174 (FUJITSU)
M74LS174P (MITSUBISHI)
TTL D-TYPE FLIP-FLOP WITH DIRECT RESET
—TOP VIEW—







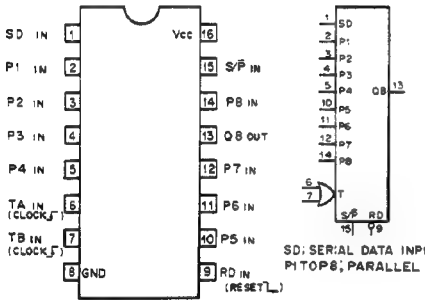
EACH FLIP-FLOP

INPUTS			OUT
Rd	T	D	Q
0	X	X	0
1	∫	0	0
1	∫	1	1
1	0	X	Qo

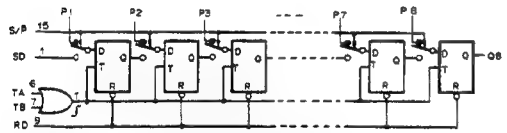
0;LOW LEVEL
1;HIGH LEVEL
X;DON'T CARE

SN74166N (TI)
SN74LS166N (TI)
TTL 8-BIT SHIFT REGISTER

—TOP VIEW—



SD; SERIAL DATA INPUT
P1 TOP8; PARALLEL DATA INPUTS

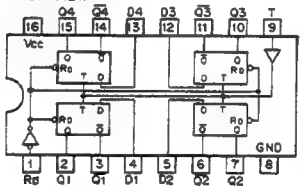


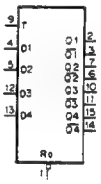
TA	TB	T
0	0	0
X	1	1
1	X	1
1	∫	1
∫	1	1
0	∫	∫
∫	0	∫

INPUTS					OUTPUT
RD	S/P	T	SD	P1-P8	Q8
0	X	X	X	X	0
1	X	0	X	X	Q8o
1	0	∫	X	1-8	8
1	1	∫	1	X	Q7n
1	1	∫	0	X	Q7n
1	X	∫	X	X	Q8o

0;LOW LEVEL
1;HIGH LEVEL
X;DON'T CARE

SN74175N (TI)
SN74S175N (TI)
SN74LS175N (TI)
HD74LS175P (HITACHI)
TTL D-TYPE FLIP-FLOP WITH CLEAR
—TOP VIEW—



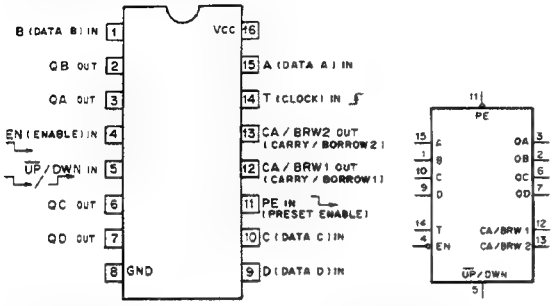


Rd	T	D	Q	Q̄
0	X	X	0	1
1	∫	1	1	0
1	∫	0	0	1
1	0	X	Qo	Qo

0;LOW LEVEL
1;HIGH LEVEL
X;DON'T CARE

SN74191N (TI)
SN74LS191N (TI)

TTL PRESETTABLE SYNCHRONOUS 4-BIT BINARY UP/DOWN COUNTER
— TOP VIEW —



MODE SELECTION

CONTROL INPUTS			MODE
PE	EN	UP/DWN	
0	X	X	PRESET (ASYNCHRONOUS)
1	1	X	NO COUNT
1	0	0	UP COUNT
1	0	1	DOWN COUNT

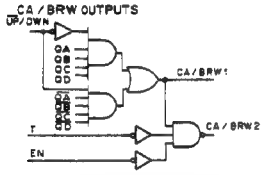
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE.

COUNT SEQUENCE

COUNT	OUTPUTS			
	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

UP COUNT
DOWN COUNT

CA/BRW OUTPUTS

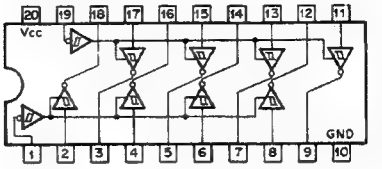


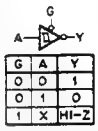
CA/BRW1 OUTPUT IS HIGH WHEN COUNT IS "15" AT UP-COUNT OR WHEN COUNT IS "0" AT DOWN COUNT.

CA/BRW2 OUTPUT IS LOW WHEN BOTH THE CLOCK AND EN INPUTS ARE LOW AND CA/BRW1 OUTPUT IS HIGH.

SN74S240N (TI)
SN74LS240N (TI)
HD74LS240P (HITACHI)

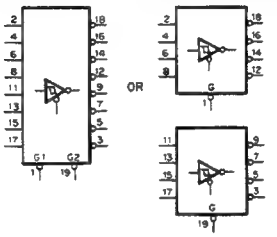
TTL 3-STATE SCHMITT TRIGGER INVERTER/LINE DRIVER
— TOP VIEW —





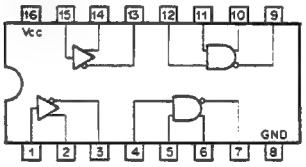
G	A	Y
0	0	1
0	1	0
1	X	HI-Z

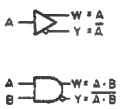
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE



SN74265N (TI)

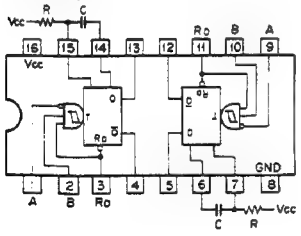
TTL COMPLEMENTARY-OUTPUT ELEMENT
— TOP VIEW —





SN74221N (TI)
SN74LS221N (TI)
HD74LS221P (HITACHI)

TTL MONOSTABLE MULTIVIBRATOR WITH SCHMITT TRIGGER INPUT
— TOP VIEW —



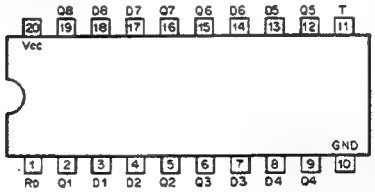
INPUTS			OUTPUTS	
RD	A	B	Q	Q̄
0	X	X	0	1
X	1	X	0	1
X	X	0	0	1
1	0	↓	⎍	⎍
1	↓	1	⎍	⎍
1	0	1	⎍	⎍

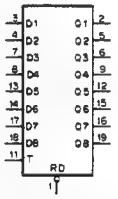
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

OUTPUT PULSE WIDTH ≒ 0.7CR

SN74273N (TI)
SN74LS273N (TI)
M74LS273P (MITSUBISHI)

TTL D-TYPE FLIP-FLOP WITH DIRECT RESET
— TOP VIEW —

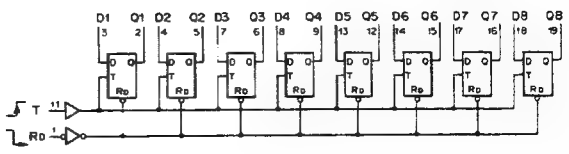




EACH FLIP-FLOP

INPUTS			OUT
RD	T	D	Q
0	X	X	0
1	⎍	0	0
1	⎍	1	1
1	0	X	Q0

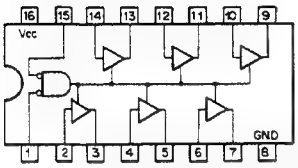
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

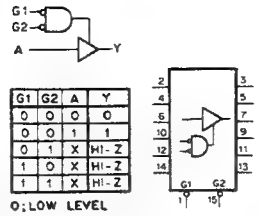


SN74365AN (TI)
SN74LS365AN (TI)

TTL 3-STATE BUS DRIVER

—TOP VIEW—





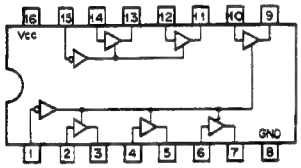
G1	G2	A	Y
0	0	0	0
0	0	1	1
0	1	X	HI-Z
1	0	X	HI-Z
1	1	X	HI-Z

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI-Z; HIGH IMPEDANCE

SN74367AN (TI)
SN74LS367AN (TI)

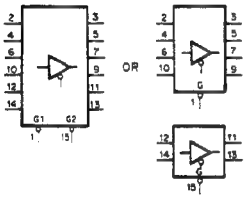
TTL BUS DRIVER WITH 3-STATE OUTPUTS

—TOP VIEW—



G	A	Y
0	0	0
0	1	1
1	X	HI-Z

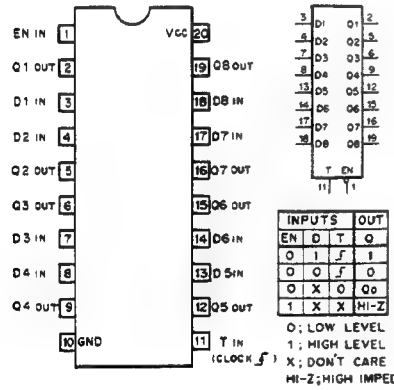
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI-Z; HIGH IMPEDANCE



SN74S374N (TI)
SN74LS374N (TI)

TTL 3-STATE OUTPUTS OCTAL D-TYPE FLIP-FLOP

-TOP VIEW-



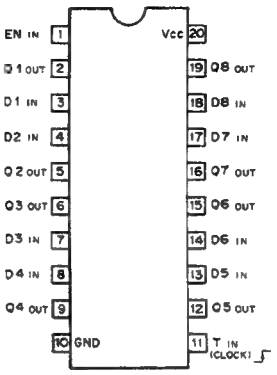
INPUTS			OUT
EN	D	T	Q
0	1	∫	1
0	0	∫	0
0	X	0	Q0
1	X	X	HI-Z

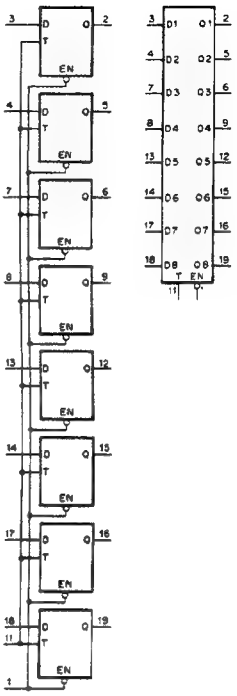
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI-Z; HIGH IMPEDANCE

SN74LS377N (TI)

TTL D-TYPE FLIP-FLOP WITH ENABLE

—TOP VIEW—





EACH FLIP-FLOP

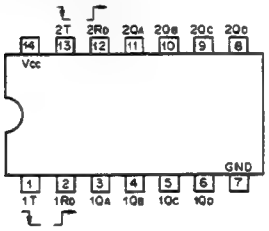
INPUTS			OUT
EN	T	D	Q
1	X	X	Q0
0	∫	1	1
0	∫	0	0
X	0	X	Q0

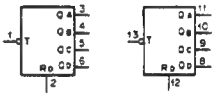
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

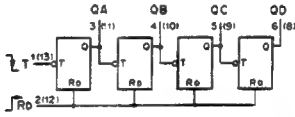
SN74393N (TI)
SN74LS393N (TI)

TTL 4-BIT BINARY COUNTER

—TOP VIEW—







COUNT SEQUENCE

COUNT	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

RESET/COUNT FUNCTION

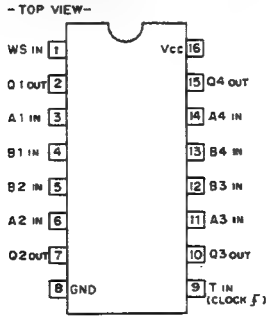
RD	QD	QC	QB	QA
1	0	0	0	0
0	COUNT			

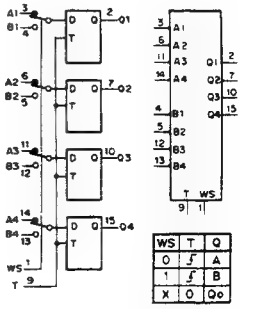
0; LOW LEVEL
1; HIGH LEVEL

SN74LS399N (TI)

TTL QUAD 2-INPUT MULTIPLEXER WITH STORAGE

-TOP VIEW-





WS	T	Q
0	∫	A
1	∫	B
X	0	Q0

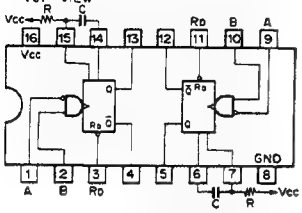
WS; WORD SELECT

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

SN74LS423N (TI)

TTL RETRIGGERABLE MONOSTABLE MULTIVIBRATOR WITH DIRECT RESET

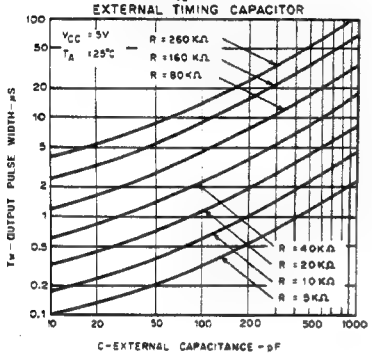
—TOP VIEW—



INPUTS			OUTPUTS	
Rd	A	B	Q	$\overline{Q}$
0	X	X	0	1
X	1	X	0	1
X	X	0	0	1
1	0	↑	⊓	⊔
1	↓	1	⊓	⊔

0:LOW LEVEL
1:HIGH LEVEL
X:DON'T CARE

OUTPUT PULSE WIDTH
VS
EXTERNAL TIMING CAPACITOR

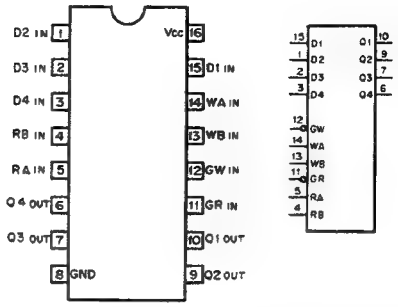


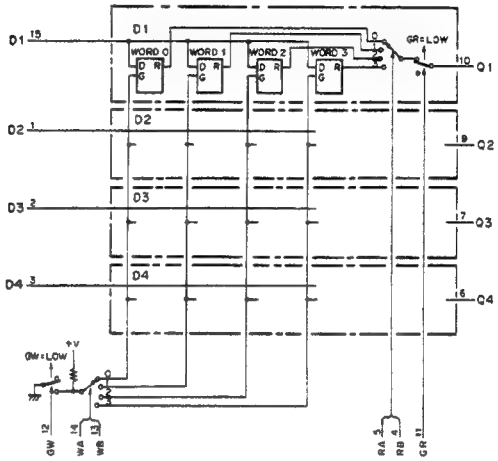
FOR Tw ≧ 100μS OR C ≧ 1000pF,
Tw = 0.38CR

SN74LS670N(TI)

TTL 4-BY-4 REGISTOR FILES WITH 3-STATE OUTPUT

—TOP VIEW—

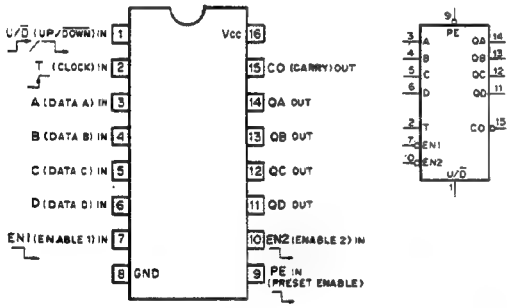




SN74LS669N (TI)

TTL PRESETTABLE SYNCHRONOUS 4-BIT BINARY UP/DOWN COUNTER

—TOP VIEW—



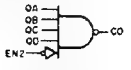
MODE SELECTION

INPUTS				MODE
PE	EN 1	EN2	U/$\overline{D}$	
0	X	X	X	PRESET
X	1	X	X	NO COUNT
X	X	1	X	NO COUNT
1	0	0	1	UP COUNT
1	0	0	0	DOWN COUNT

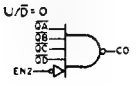
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

CARRY OUTPUTS "CO"

AT U/$\overline{D}$ = 1



AT U/$\overline{D}$ = 0



COUNT SEQUENCE

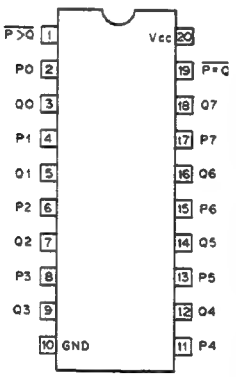
COUNT	OUTPUTS			
	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

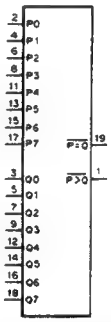
UP COUNT
DOWN COUNT

SN74LS684N (TI)

TTL 8-BIT MAGNITUDE COMPARATOR

—TOP VIEW—

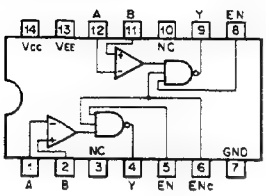




DATA INPUTS		OUTPUTS	
P0 - P7	Q0 - Q7	P=Q	P>Q
P=Q		0	1
P>Q		1	0
P<Q		1	1

1 ; HIGH LEVEL
0 ; LOW LEVEL

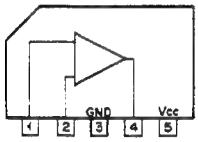
SN75207BN (TI)
BIPOLAR LINE RECEIVER (TTL COMPATIBLE)
— TOP VIEW —



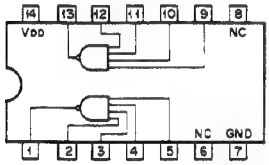
INPUTS			OUT
B − A	EN	ENc	Y
B − A ≧ 10mV	X	0	1
	0	X	1
	1	1	0
|B − A| < 10mV	X	0	1
	0	X	1
	1	1	?
B − A ≦ −10mV	X	X	1

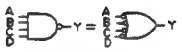
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

TA7060AP (TOSHIBA)
LINEAR AMP
— SIDE VIEW —



TC4012BP (TOSHIBA)
C-MOS 4-INPUT NAND GATE
— TOP VIEW —



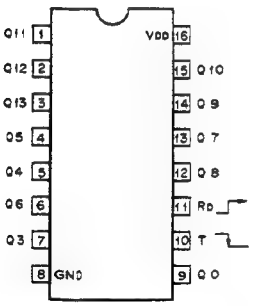


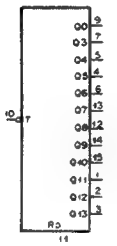
$Y = \overline{A \cdot B \cdot C \cdot D}$
$= \overline{A} + \overline{B} + \overline{C} + \overline{D}$

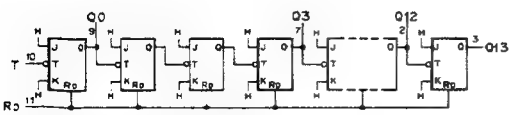
A	B	C	D	Y
X	X	X	0	1
X	X	0	X	1
X	0	X	X	1
0	X	X	X	1
1	1	1	1	0

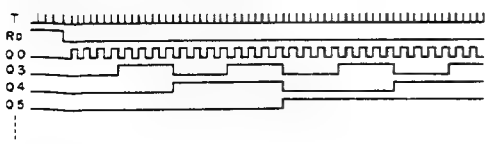
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

TC4020BP (TOSHIBA)
C-MOS 14-STAGE RIPPLE-CARRY BINARY COUNTER/DRIVER
— TOP VIEW —

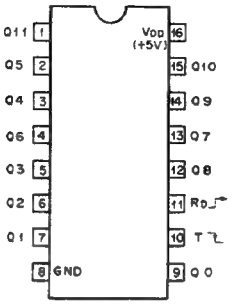


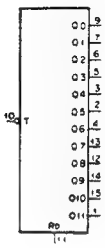


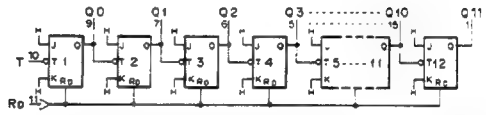




TC4040BP (TOSHIBA)
C-MOS 12-STAGE RIPPLE CARRY BINARY COUNTER/DRIVER
— TOP VIEW —





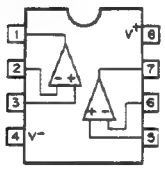


COUNT	Q11	Q10	Q9	Q8	Q7	Q6	Q5	Q4	Q3	Q2	Q1	Q0
0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	1
2	0	0	0	0	0	0	0	0	0	0	1	0
3	0	0	0	0	0	0	0	0	0	0	1	1
4095	1	1	1	1	1	1	1	1	1	1	1	1

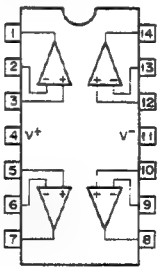
RD	Q11 ····· Q0
1	ALL LOW
0	COUNT

0; LOW LEVEL
1; HIGH LEVEL

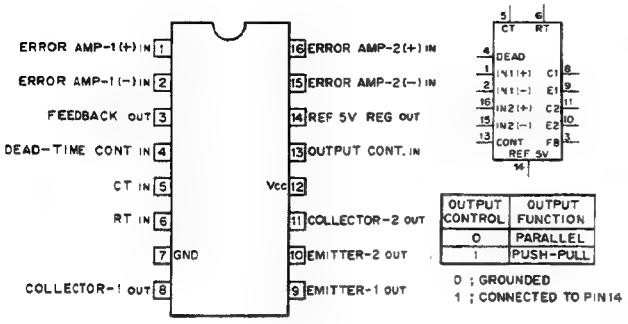
TL082CP (TI)
μPC4082C (NEC)
OPERATIONAL AMPLIFIER
(JFET-INPUT)
— TOP VIEW —



TL084CN (TI)
OPERATIONAL AMPLIFIER
(JFET-INPUT)
— TOP VIEW —

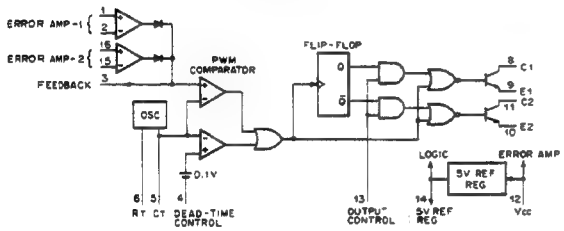


TL494CN (TI)
PWM POWER CONTROL
—TOP VIEW—



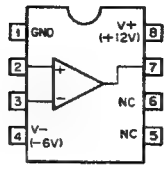
OUTPUT CONTROL	OUTPUT FUNCTION
0	PARALLEL
1	PUSH-PULL

0 ; GROUNDED
1 ; CONNECTED TO PIN14

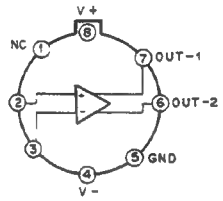


TL710CP (TI)
VOLTAGE COMPARATOR

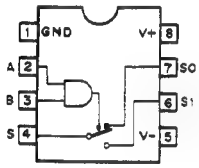
— TOP VIEW —

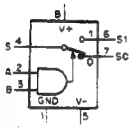


μA760HC(FSC)
HIGH SPEED VOLTAGE COMPARATOR
—TOP VIEW—



TL601CP (TI)
P-MOS ANALOG SWITCH
—TOP VIEW—

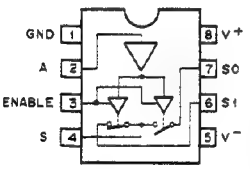


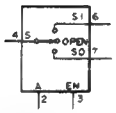


CONT IN		ON CHANNEL
A	B	
0	0	SO
0	1	SO
1	0	SO
1	1	S1

0; LOW LEVEL
1; HIGH LEVEL

TL607CP (TI)
MOS ANALOG SWITCH
—TOP VIEW—

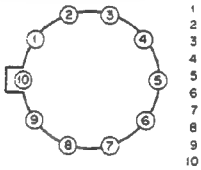




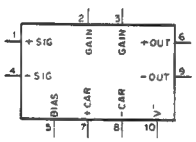
INPUTS A	INPUTS EN	SW
X	0	OPEN
0	1	
1	1	

0;LOW LEVEL
1;HIGH LEVEL
X;DON'T CARE

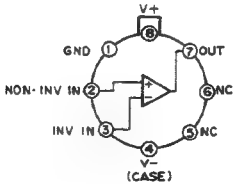
MC1496G (MOTOROLA)
μA796HC (FSC)
DOUBLE-BALANCED MOD/DEMOD.
—BOTTOM VIEW—



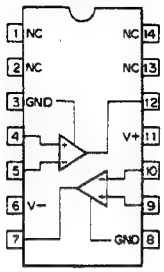
1 +SIGNAL INPUT
2 GAIN ADJUST
3 GAIN ADJUST
4 −SIGNAL INPUT
5 BIAS
6 +OUTPUT
7 +CARRIER INPUT
8 −CARRIER INPUT
9 −OUTPUT
10 V⁻



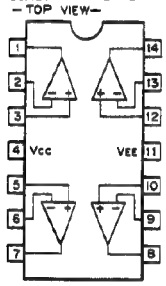
μPC71A (NEC)
HIGH SPEED VOLTAGE COMPARATOR
—TOP VIEW—



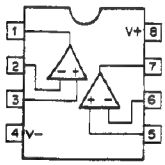
μPC 319C (NEC)
DUAL VOLTAGE COMPARATOR
– TOP VIEW –



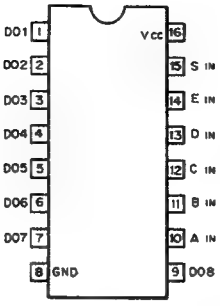
μPC324C (NEC)
QUAD. OP AMPLIFIER
– TOP VIEW –

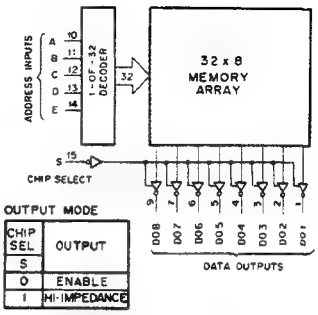


μPC4557C (NEC)
OPERATIONAL AMPLIFIER
(WIDE BAND, LOW NOISE)
– TOP VIEW –



MB7051 (FUJITSU)
256-BIT (32 x 8) PROM (3-STATE OUTPUT)
– TOP VIEW –





OUTPUT MODE

CHIP SEL	OUTPUT
S	
0	ENABLE
1	HI-IMPEDANCE

WORD / ADDRESS TABLE

WORD	ADDRESS INPUTS E	D	C	B	A
0	0	0	0	0	0
1	0	0	0	0	1
2	0	0	0	1	0
⋮	⋮	⋮	⋮	⋮	⋮
29	1	1	1	0	1
30	1	1	1	1	0
31	1	1	1	1	1

DATA CODE / ACTUAL DATA

DATA CODE		ACTUAL DATA DO8	DO7	DO6	DO5	DO4	DO3	DO2	DO1
0	00	0	0	0	0	0	0	0	0
1	01	0	0	0	0	0	0	0	1
2	02	0	0	0	0	0	0	1	0
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
8	08	0	0	0	0	1	0	0	0
9	09	0	0	0	0	1	0	0	1
10	0A	0	0	0	0	1	0	1	0
11	0B	0	0	0	0	1	0	1	1
12	0C	0	0	0	0	1	1	0	0
13	0D	0	0	0	0	1	1	0	1
14	0E	0	0	0	0	1	1	1	0
15	0F	0	0	0	0	1	1	1	1
16	10	0	0	0	1	0	0	0	0
17	11	0	0	0	1	0	0	0	1
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
238	EE	1	1	1	0	1	1	1	0
239	EF	1	1	1	0	1	1	1	1
240	F0	1	1	1	1	0	0	0	0
241	F1	1	1	1	1	0	0	0	1
242	F2	1	1	1	1	0	0	1	0
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
248	F8	1	1	1	1	1	0	0	0
249	F9	1	1	1	1	1	0	0	1
250	FA	1	1	1	1	1	0	1	0
251	FB	1	1	1	1	1	0	1	1
252	FC	1	1	1	1	1	1	0	0
253	FD	1	1	1	1	1	1	0	1
254	FE	1	1	1	1	1	1	1	0
255	FF	1	1	1	1	1	1	1	1

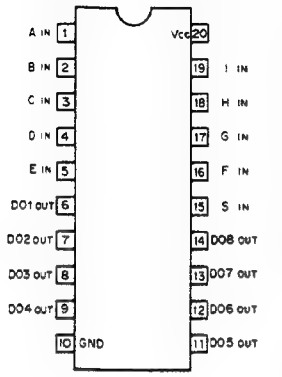
IN HEXADECIMAL
IN DECIMAL

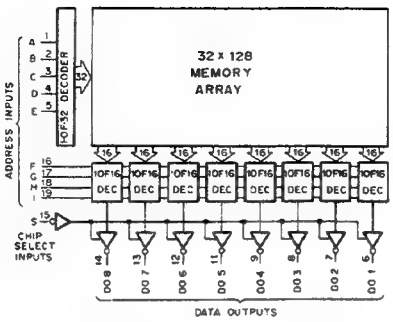
MB7051-YCDL
PROGRAMMED DATA

WORD (ADDRESS)	DATA OUTPUTS (IN HEXADECIMAL)
0 – 15	35. 35. 35. D2. 57. 94. 73. B0. 9E. 9E. 9E. 9E. 9E. 9E. 9E. 9E.
16 – 31	EA. EA. EA. 4B. AC. 0D. 98. 29. 9E. 9E. 9E. 9E. 9E. 9E. 9E. 9E.

TBP28S42N(TI)
4096-BIT(512 x 8) PROM (3-STATE OUTPUT)

-TOP VIEW-





OUTPUT MODE

CHIP SEL	OUTPUT
S	
0	ENABLE
1	HI-Z

0:LOW LEVEL
1:HIGH LEVEL
HI-Z:HIGH IMPEDANCE

TBP28S42N-CADR
PROGRAMMED DATA

WORD (ADDRESS)	DATA OUTPUTS (IN HEXADECIMAL)
0 – 15	00.01.02.03.04.05.06.07.08.09.0A.0B.0C.0D.0E.0F.
16 – 31	10.11.12.13.14.15.16.17.18.19.1A.1B.1C.1D.1E.1F.
32 – 47	21.22.23.24.25.26.27.28.29.2A.2B.2C.2D.2E.2F.30.
48 – 63	31.32.33.34.35.36.37.38.39.3A.3B.3C.3D.3E.3F.20.
64 – 79	20.21.22.23.24.25.26.27.28.29.2A.2B.2C.2D.2E.2F.
80 – 95	30.31.32.33.34.35.36.37.38.39.3A.3B.3C.3D.3E.3F.
96 – 111	21.22.23.24.25.26.27.28.29.2A.2B.2C.2D.2E.2F.30.
112 – 127	31.32.33.34.35.36.37.38.39.3A.3B.3C.3D.3E.3F.20.
128 – 143	00.01.02.03.04.05.06.07.08.09.0A.0B.0C.0D.0E.0F.
144 – 159	10.11.12.13.14.15.16.17.18.19.1A.1B.1C.1D.1E.1F.
160 – 175	21.22.23.24.25.26.27.28.29.2A.2B.2C.2D.2E.2F.30.
176 – 191	31.32.33.34.35.36.37.38.39.3A.3B.3C.3D.3E.3F.20.
192 – 207	20.21.22.23.24.25.26.27.28.29.2A.2B.2C.2D.2E.2F.
208 – 223	30.31.32.33.34.35.36.37.38.39.3A.3B.3C.3D.3E.3F.
224 – 239	21.22.23.24.25.26.27.28.29.2A.2B.2C.2D.2E.2F.30.
240 – 255	31.32.33.34.35.36.37.38.39.3A.3B.3C.3D.3E.3F.20.
256 – 271	00.01.02.03.04.05.06.07.08.09.0A.0B.0C.0D.0E.0F.
272 – 287	10.11.12.13.14.15.16.17.18.19.1A.1B.1C.1D.1E.1F.
288 – 303	21.22.23.24.25.26.27.28.29.2A.2B.2C.2D.2E.2F.30.
304 – 319	31.32.33.34.35.36.37.38.39.3A.3B.3C.3D.3E.3F.20.
320 – 335	20.21.22.23.24.25.26.27.28.29.2A.2B.2C.2D.2E.2F.
336 – 351	30.31.32.33.34.35.36.37.38.39.3A.3B.3C.3D.3E.3F.
352 – 367	21.22.23.24.25.26.27.28.29.2A.2B.2C.2D.2E.2F.30.
368 – 383	31.32.33.34.35.36.37.38.39.3A.3B.3C.3D.3E.3F.20.
384 – 399	00.01.02.03.04.05.06.07.08.09.0A.0B.0C.0D.0E.0F.
400 – 415	10.11.12.13.14.15.16.17.18.19.1A.1B.1C.1D.1E.1F.
416 – 431	00.01.02.03.04.05.06.07.08.09.0A.0B.0C.0D.0E.0F.
432 – 447	10.11.12.13.14.15.16.17.18.19.1A.1B.1C.1D.1E.1F.
448 – 463	20.21.22.23.24.25.26.27.28.29.2A.2B.2C.2D.2E.2F.
464 – 479	30.31.32.33.34.35.36.37.38.39.3A.3B.3C.3D.3E.3F.
480 – 495	20.21.22.23.24.25.26.27.28.29.2A.2B.2C.2D.2E.2F.
496 – 511	30.31.32.33.34.35.36.37.38.39.3A.3B.3C.3D.3E.3F.

WORD/ADDRESS TABLE

WORD	ADDRESS INPUT								
	I	H	G	F	E	D	C	B	A
0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	1
2	0	0	0	0	0	0	0	1	0
509	1	1	1	1	1	1	1	0	1
510	1	1	1	1	1	1	1	1	0
511	1	1	1	1	1	1	1	1	1

0:LOW LEVEL
1:HIGH LEVEL

DATA CODE/ACTUAL DATA

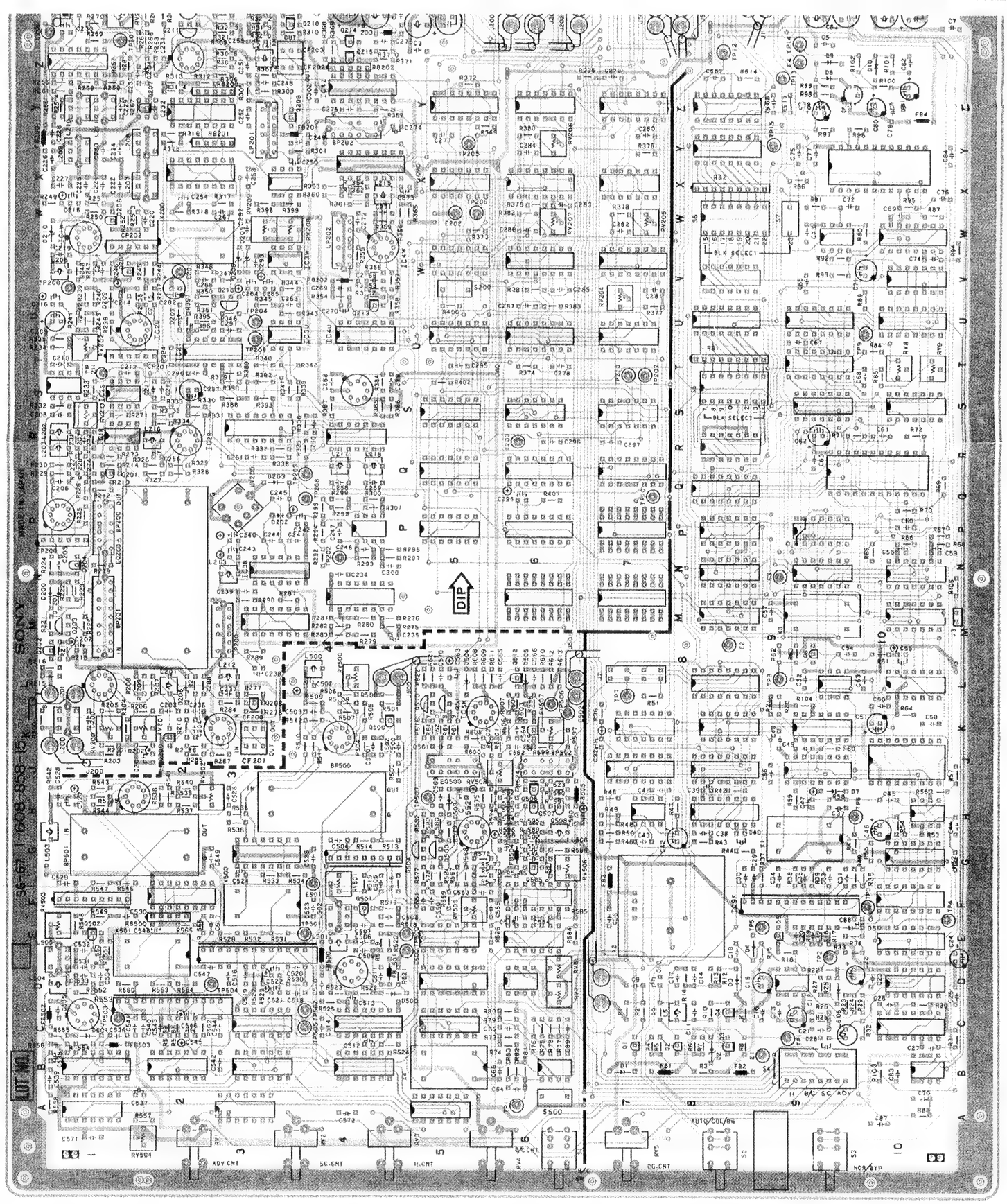
DATA CODE	ACTUAL DATA							
	DO8	DO7	DO6	DO5	DO4	DO3	DO2	DO1
0 00	0	0	0	0	0	0	0	0
1 01	0	0	0	0	0	0	0	1
2 02	0	0	0	0	0	0	1	0
8 08	0	0	0	0	1	0	0	0
9 09	0	0	0	0	1	0	0	1
10 0A	0	0	0	0	1	0	1	0
11 0B	0	0	0	0	1	0	1	1
12 0C	0	0	0	0	1	1	0	0
13 0D	0	0	0	0	1	1	0	1
14 0E	0	0	0	0	1	1	1	0
15 0F	0	0	0	0	1	1	1	1
16 10	0	0	0	1	0	0	0	0
17 11	0	0	0	1	0	0	0	1
238 EE	1	1	1	0	1	1	1	0
239 EF	1	1	1	0	1	1	1	1
240 F0	1	1	1	1	0	0	0	0
241 F1	1	1	1	1	0	0	0	1
242 F2	1	1	1	1	0	0	1	0
248 F8	1	1	1	1	1	0	0	0
249 F9	1	1	1	1	1	0	0	1
250 FA	1	1	1	1	1	0	1	0
251 FB	1	1	1	1	1	0	1	1
252 FC	1	1	1	1	1	1	0	0
253 FD	1	1	1	1	1	1	0	1
254 FE	1	1	1	1	1	1	1	0
255 FF	1	1	1	1	1	1	1	1

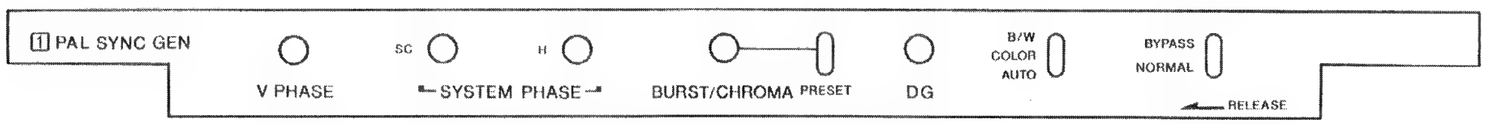
HEXADECIMAL
DECIMAL

TBP28S42N-YADR
PROGRAMMED DATA

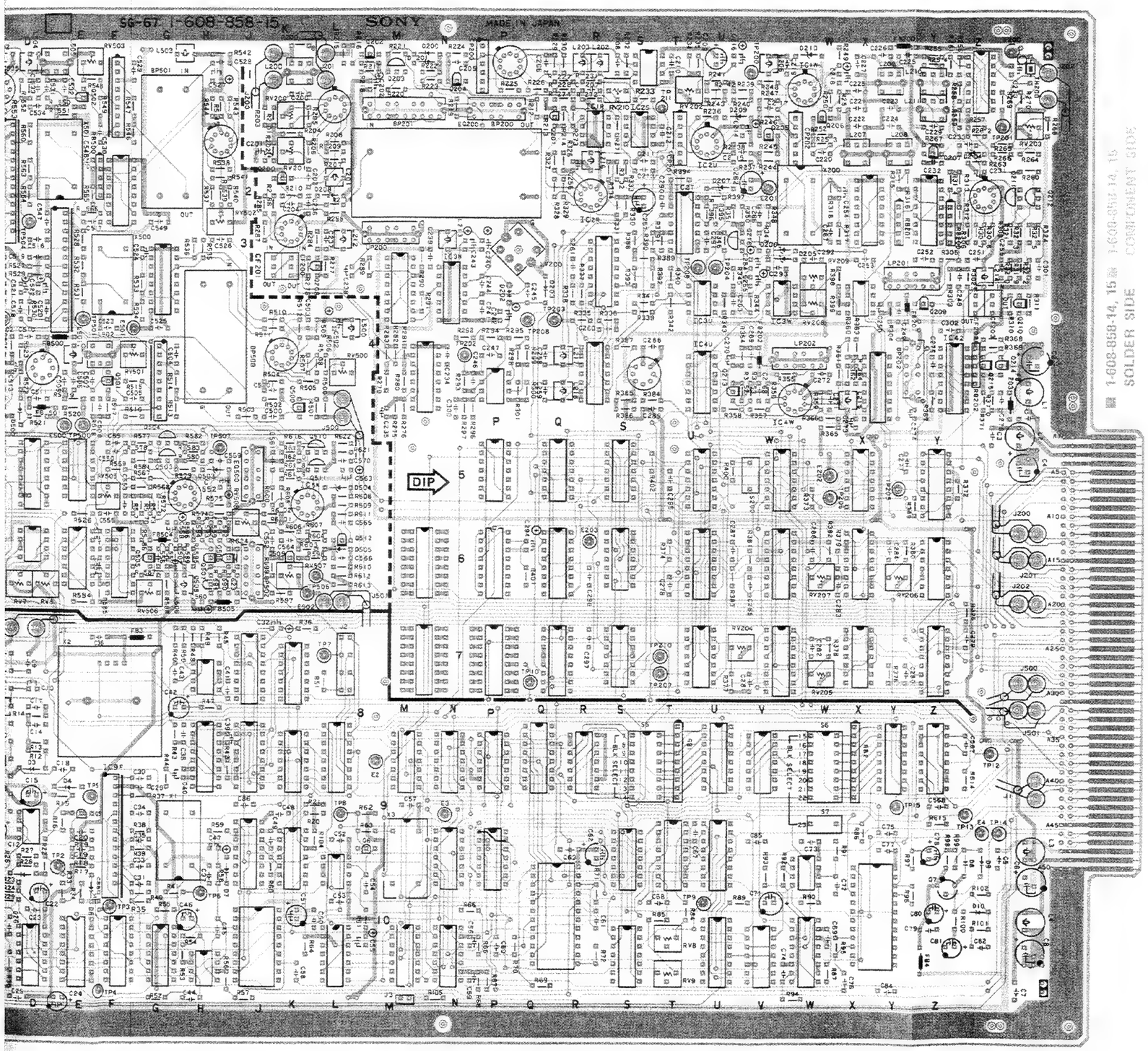
WORD (ADDRESS)	DATA OUTPUTS (IN HEXADECIMAL)
0 – 15	1D.1E.1F.00.01.02.03.04.05.06.07.08.09.0A.0B.0C.
16 – 31	0D.0E.0F.10.11.12.13.14.15.16.17.18.19.1A.1B.1C.
32 – 47	1D.1E.1F.00.01.02.03.04.05.06.07.08.09.0A.0B.0C.
48 – 63	0D.0E.0F.10.11.12.13.14.15.16.17.18.19.1A.1B.1C.
64 – 79	1D.1E.1F.00.01.02.03.04.05.06.07.08.09.0A.0B.0C.
80 – 95	0D.0E.0F.10.11.12.13.14.15.16.17.18.19.1A.1B.1C.
96 – 111	1D.1E.1F.00.01.02.03.04.05.06.07.08.09.0A.0B.0C.
112 – 127	0D.0E.0F.10.11.12.13.14.15.16.17.18.19.1A.1B.1C.
128 – 143	1D.1E.1F.00.01.02.03.04.05.06.07.08.09.0A.0B.0C.
144 – 159	0D.0E.0F.10.11.12.13.14.15.16.17.18.19.1A.1B.1C.
160 – 175	1D.1E.1F.00.01.02.03.04.05.06.07.08.09.0A.0B.0C.
176 – 191	0D.0E.0F.10.11.12.13.14.15.16.17.18.19.1A.1B.1C.
192 – 207	1D.1E.1F.00.01.02.03.04.05.06.07.08.09.0A.0B.0C.
208 – 223	0D.0E.0F.10.11.12.13.14.15.16.17.18.19.1A.1B.1C.
224 – 239	1D.1E.1F.00.01.02.03.04.05.06.07.08.09.0A.0B.0C.
240 – 255	0D.0E.0F.10.11.12.13.14.15.16.17.18.19.1A.1B.1C.
256 – 271	00.01.02.03.04.05.06.07.08.09.0A.0B.0C.0D.0E.0F.
272 – 287	10.11.12.13.14.15.16.17.18.19.1A.1B.1C.1D.1E.1F.
288 – 303	00.01.02.03.04.05.06.07.08.09.0A.0B.0C.0D.0E.0F.
304 – 319	10.11.12.13.14.15.16.17.18.19.1A.1B.1C.1D.1E.1F.
320 – 335	00.01.02.03.04.05.06.07.08.09.0A.0B.0C.0D.0E.0F.
336 – 351	10.11.12.13.14.15.16.17.18.19.1A.1B.1C.1D.1E.1F.
352 – 367	21.22.23.24.25.26.27.28.29.2A.2B.2C.2D.2E.2F.30.
368 – 383	31.32.33.34.35.36.37.38.39.3A.3B.3C.3D.3E.3F.20.
384 – 399	00.01.02.03.04.05.06.07.08.09.0A.0B.0C.0D.0E.0F.
400 – 415	10.11.12.13.14.15.16.17.18.19.1A.1B.1C.1D.1E.1F.
416 – 431	00.01.02.03.04.05.06.07.08.09.0A.0B.0C.0D.0E.0F.
432 – 447	10.11.12.13.14.15.16.17.18.19.1A.1B.1C.1D.1E.1F.
448 – 463	00.01.02.03.04.05.06.07.08.09.0A.0B.0C.0D.0E.0F.
464 – 479	10.11.12.13.14.15.16.17.18.19.1A.1B.1C.1D.1E.1F.
480 – 495	00.01.02.03.04.05.06.07.08.09.0A.0B.0C.0D.0E.0F.
496 – 511	10.11.12.13.14.15.16.17.18.19.1A.1B.1C.1D.1E.1F.

SECTION C
SCHEMATIC DIAGRAM & BOARD LAYOUT





1 **SG-67 BOARD** (1-608-858-14, 15)
Component Side



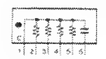
C-4

SG-67 (1-608-858-13, 14, 15)

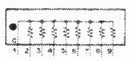
BVT-800PS (FOR PAL)
BKT-801 (FOR PAL)

CP200	1P	IC5K		Q502	1E		
CP201	2T	IC5P		Q503	5G		
CP202	2W	IC5Q		Q504	5G		
		IC5S		Q505	6G		
D1	7B	IC5U		Q506	6H		
D2	8B	IC5W		Q507	6H		
D3	8D	IC5X		Q508	6H		
D4	8E	IC5Y		Q509	6K		
D5	9D	IC6B		Q510	5K		
D6	9E	IC6D		Q511	5K		
D7	9H	IC6E		Q512	6L		
D8	9Z	IC6F					
D9	9Z	IC6P		RB1	8T		
D10	10Z	IC6Q		RB2	8X		
D200	1M	IC6S		RB200	2Z		
D201	1M	IC6U		RB201	2Y		
D202	3P	IC6W		RB202	4Z		
D203	3Q	IC6X		RB500	2E		
D204	2Z	IC6Y					
D205	3W	IC7H		RV1	2A		
D206	3W	IC7J		RV2	3A		
D207	2U	IC7K		RV3	4A		
D208	2L	IC7Q		RV4	5A		
D209	1V	IC7S		RV5	7A		
D210	1W	IC7U		RV6	6D		
D500	4D	IC7W		RV7	6D		
D501	1C	IC7X		RV8	10T		
D502	6G	IC7Y		RV9	10T		
D503	5H	IC8H		RV200	1K		
D504	5L	IC8J		RV201	2K		
D505	6L	IC8K		RV202	1T		
		IC8L		RV203	1Z		
E1	8B	IC8M		RV204	7V		
E2	8L	IC8N		RV205	7W		
E3	9N	IC8P		RV206	6Y		
E4	9Z	IC8Q		RV207	6W		
E200	1Z	IC8R		RV208	3W		
E201	2V	IC8U		RV209	3W		
E202	5W	IC8V		RV210	1S		
E203	5R	IC8Y		RV500	4L		
E500	4E	IC8Z		RV501	4F		
E501	3F	IC9D		RV502	2H		
E502	6K	IC9F		RV503	1E		
		IC9J		RV504	2A		
EQ200	1P	IC9K		RV506	6G		
EQ500	5J	IC9L		RV507	6K		
		IC9N		RV508	6J		
IC1A		IC9P					
IC1B		IC9S		S1	6A		
IC1C		IC9T		S2	8A		
IC1F		IC9U		S3	9A		
IC1L		IC9W		S4	9B		
IC1P		IC10B		S5	8S		
IC1R		IC10C		S6	8W		
IC1S		IC10D		S7	9W		
IC1W		IC10E		S200	5V		
IC1Z		IC10F		S500	6A		
IC2B		IC10G					
IC2C		IC10H		TH200	1Z		
IC2F		IC10J					
IC2H		IC10L		TP1	9C		
IC2R		IC10M		TP2	9E		
IC2S		IC10N		TP3	10F		
IC2T		IC10Q		TP4	10E		
IC2U		IC10S		TP5	8E		
IC2X		IC10U		TP6	9H		
IC2Y		IC10V		TP7	7K		
IC2Z		IC10W		TP8	9L		
IC3A		IC10X		TP9	9U		
IC3B				TP10	7Q		
IC3C		J2	7L	TP11	6A		
IC3E		J3	10M	TP12	8Z		
IC3G				TP13	9Z		
IC3K		LV200	3P	TP14	9Z		
IC3M				TP15	8Y		
IC3N		Q1	7B	TP200	1V		
IC3R		Q2	8B	TP201	1Z		
IC3U		Q3	8B	TP202	4N		
IC3W		Q4	8C	TP203	3Q		
IC3X		Q5	9E	TP204	3U		
IC4B		Q6	9L	TP205	5Y		
IC4C		Q7	9Z	TP206	5W		
IC4D		Q200	2K	TP207	7S		
IC4G		Q201	1Q	TP208	3Q		
IC4K		Q202	1L	TP209	3U		
IC4M		Q203	1M	TP210	7S		
IC4P		Q204	1N	TP211	1S		
IC4R		Q205	2V	TP500	4E		
IC4S		Q206	1W	TP501	3E		
IC4U		Q207	2Y	TP502	3C		
IC4W		Q208	3K	TP503	1C		
IC4X		Q209	3Y	TP504	2D		
IC4Z		Q210	3Z	TP505	3C		
IC5A		Q211	2Z	TP506	6K		
IC5C		Q212	2Z	TP507	5H		
IC5D		Q213	4V				
IC5E		Q214	4Z	X1	9G		
IC5G		Q215	4Z	X2	7E		
		Q216	3V	X3	9M		
		Q500	4K	X4	5B		
		Q501	4F	X200	2W		
				X500	3F		
				X501	2E		

CP200, 201, 202



RB1, 2

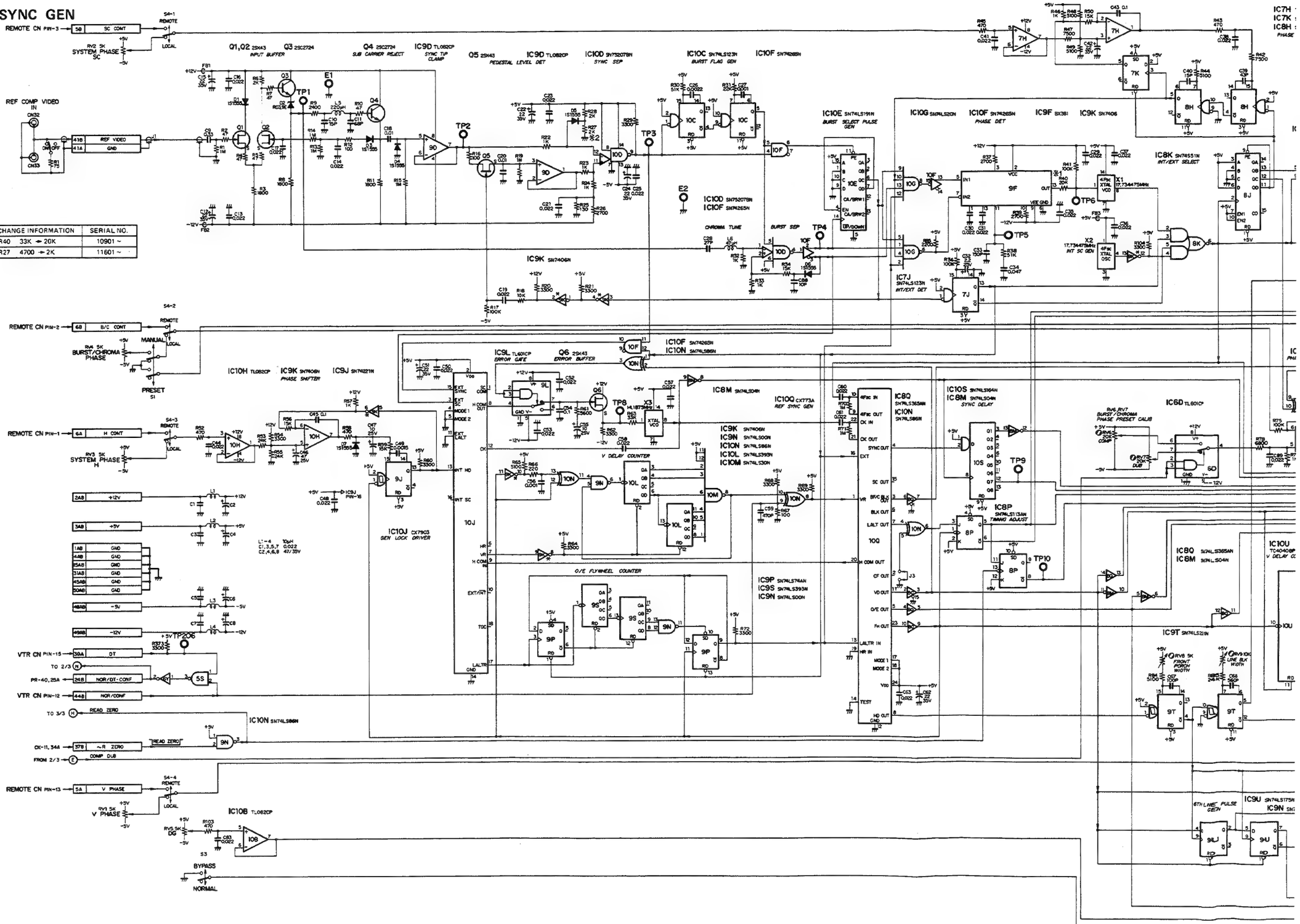


RB200, 201, 202, 500

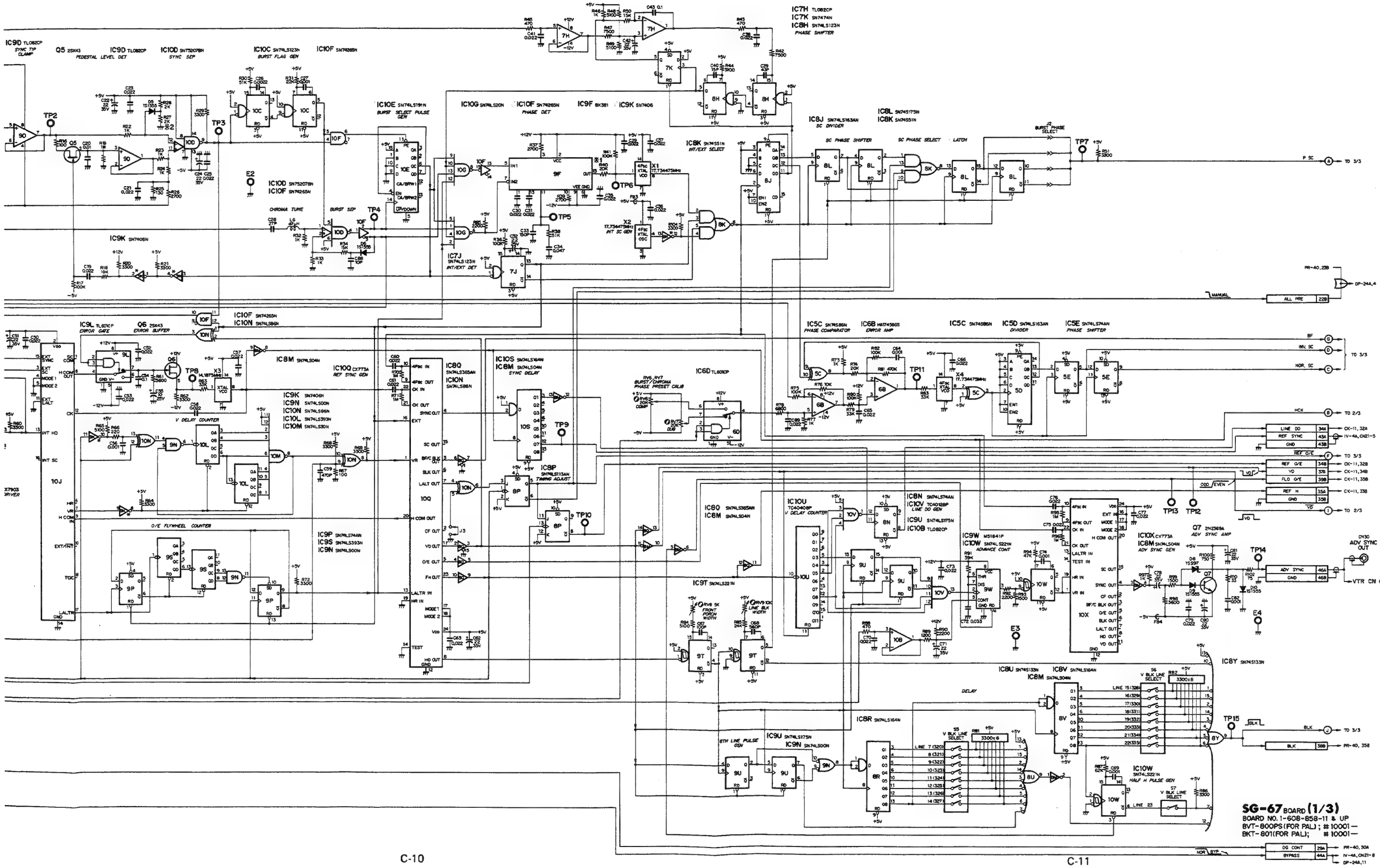
C-5

1 SG-67 BOARD (1/3); PAL SYNC GEN

Reference Sync Generator
Advanced Sync Generator
Blanking Pulse Generator
Line DO Pulse Generator
Proc SC Generator
Burst/Chroma Phase Control
SC Phase Control
System Phase Control
V Phase Control



C-9 C-10



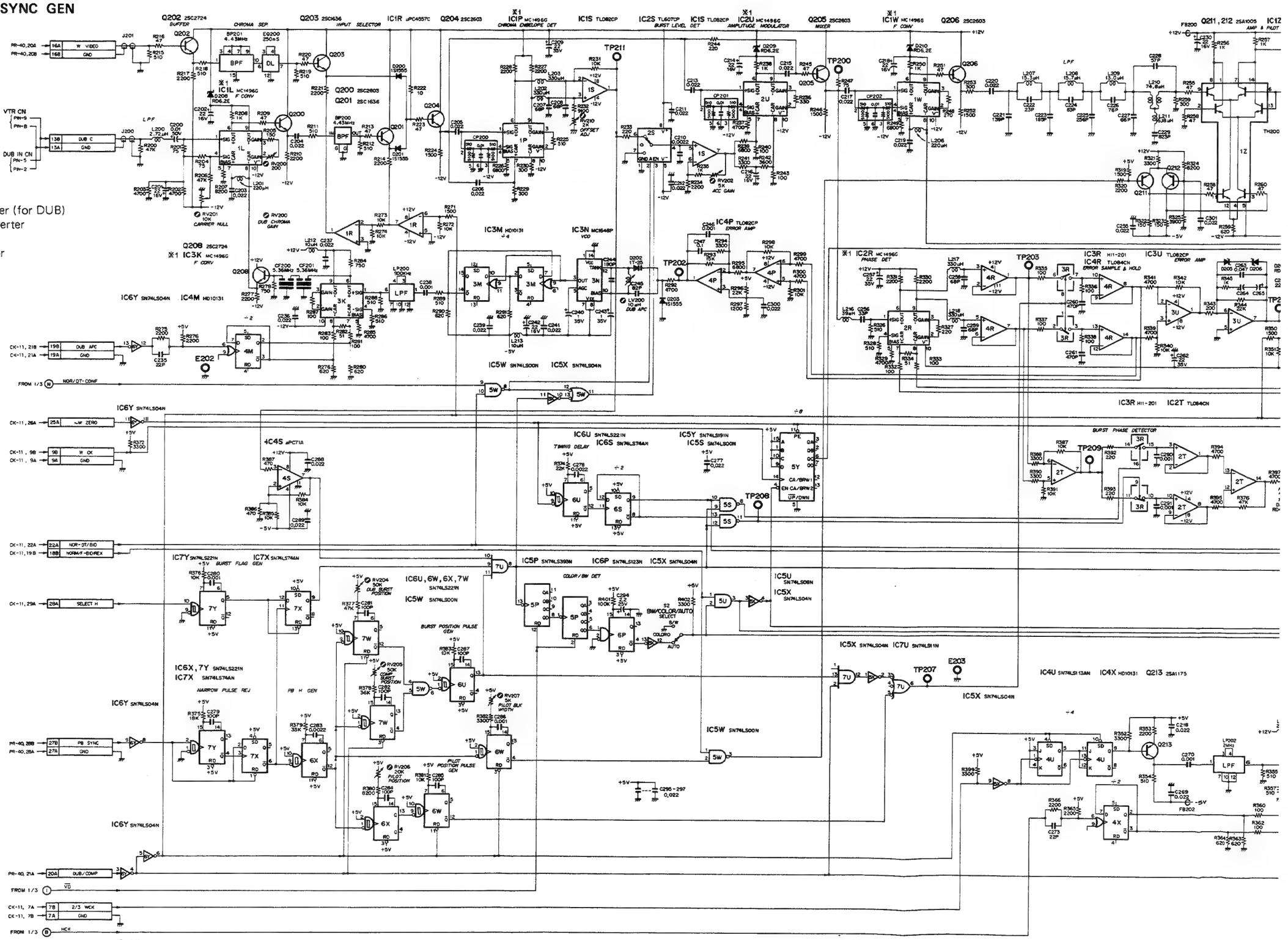
SG-67 BOARD (1/3)
BOARD NO. 1-608-858-11 & UP
BVT-800PS (FOR PAL) ; # 10001—
BKT-801 (FOR PAL); # 10001—

1 SG-67 BOARD (2/3); PAL SYNC GEN

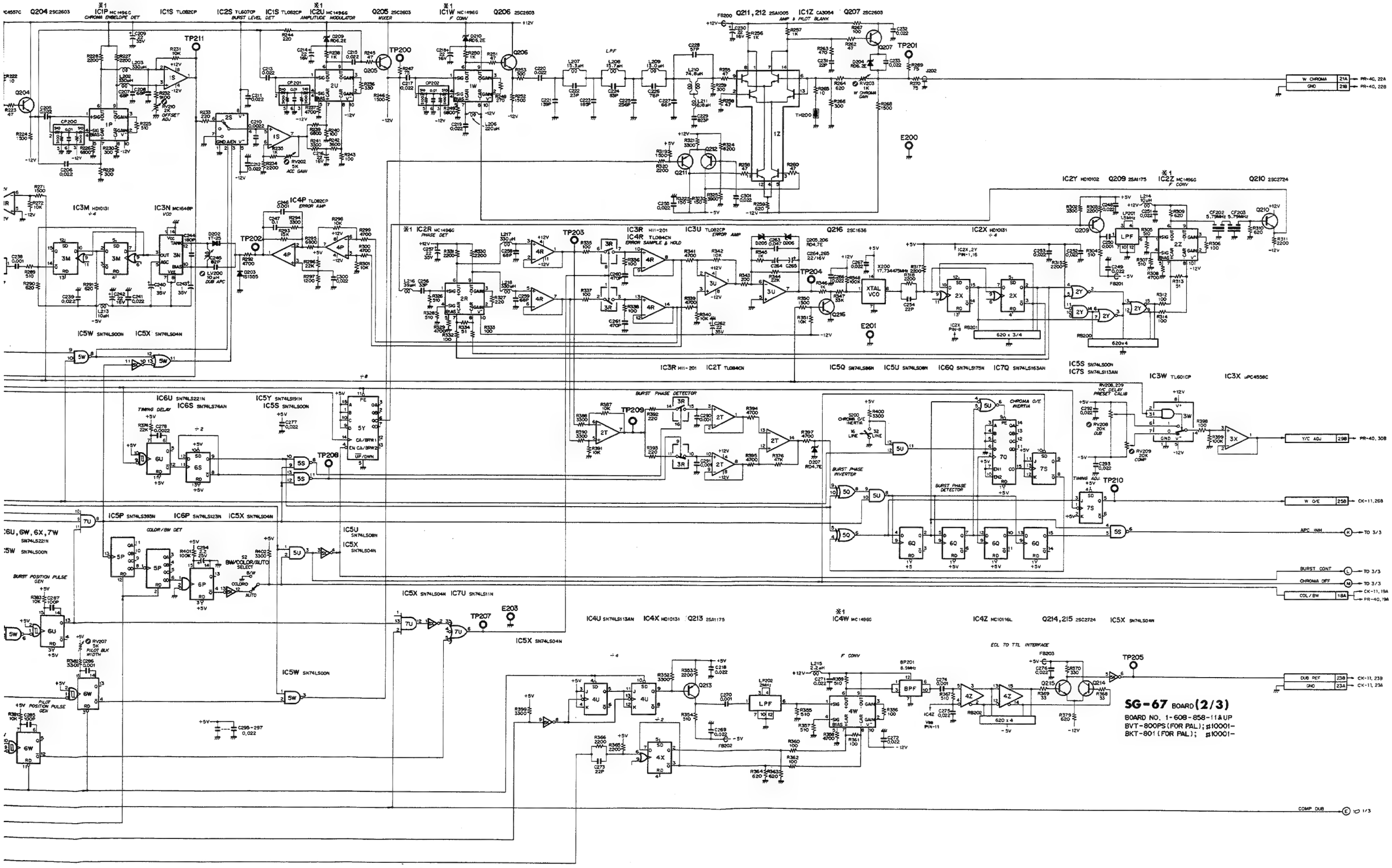
Chroma Separator (for COMP)
Chroma Frequency Up Converter (for DUB)
Chroma Frequency Down Converter
Color/BW Detector
Write Odd/Even Pulse Generator

NOTE:

MARK	CHANGE INFORMATION	SERIAL NO.
※1	IC1L, 1P, 1W, 2R, 2U, 2Z, 3K, 4W μA796HC → MC1496G	16701 ~



1 SG-67 (FOR PAL) (2/3)

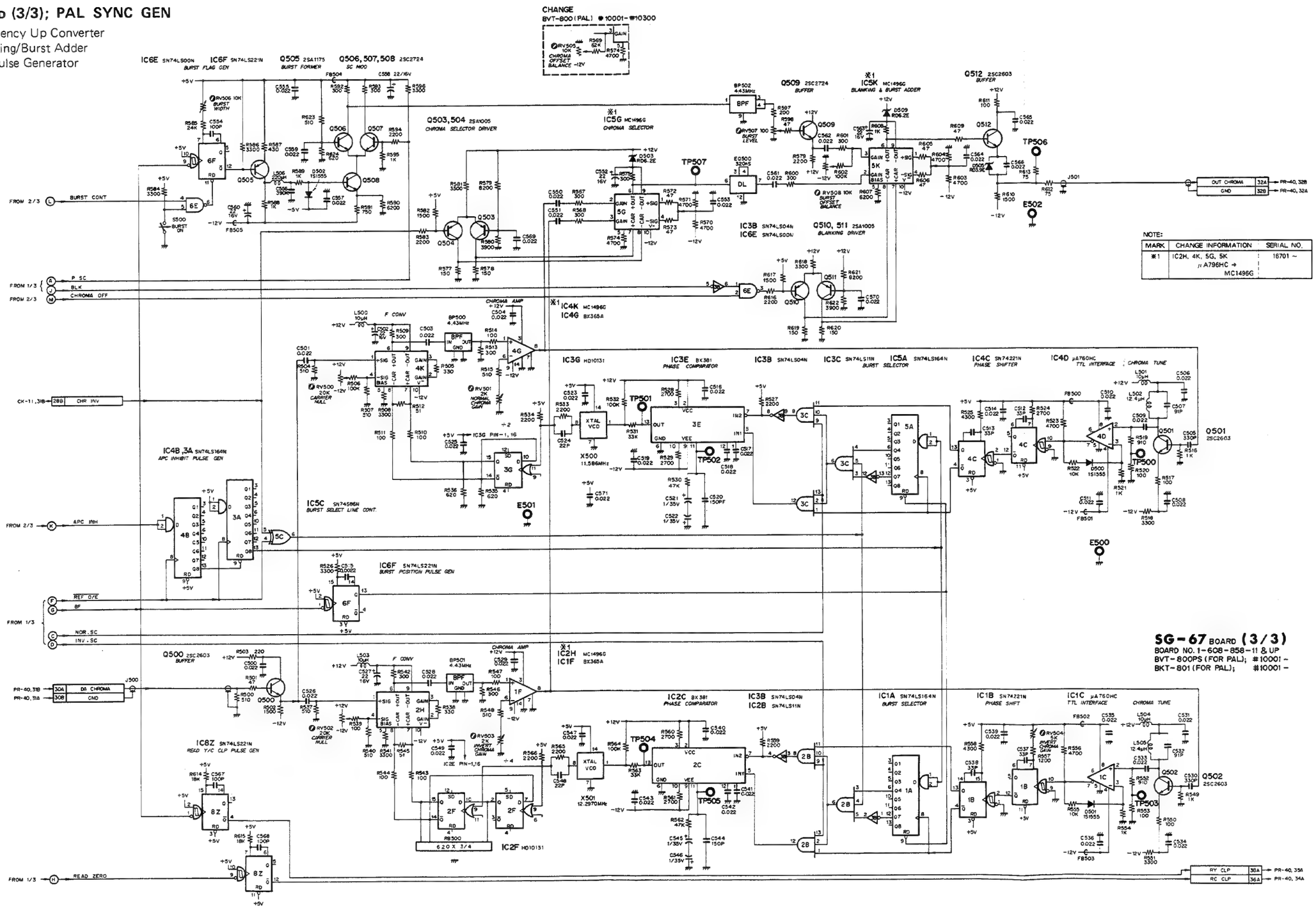


SG-67 BOARD (2/3)

BOARD NO. 1-608-858-11 & UP
BVT-800PS (FOR PAL); #10001-
BKT-801 (FOR PAL); #10001-

1 SG-67 BOARD (3/3); PAL SYNC GEN

Chroma Frequency Up Converter
Chroma Blanking/Burst Adder
Read Clamp Pulse Generator



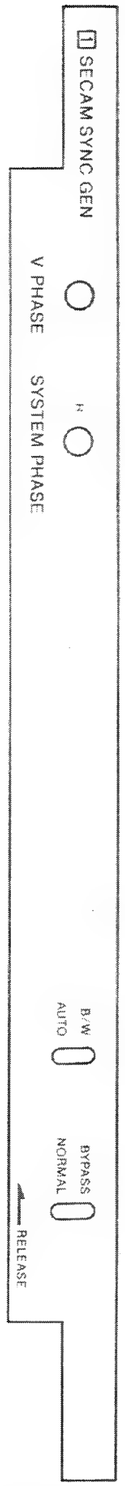
NOTE:

MARK	CHANGE INFORMATION	SERIAL NO.
※1	IC2H, 4K, 5G, 5K : μA796HC → MC1496G	16701 ~

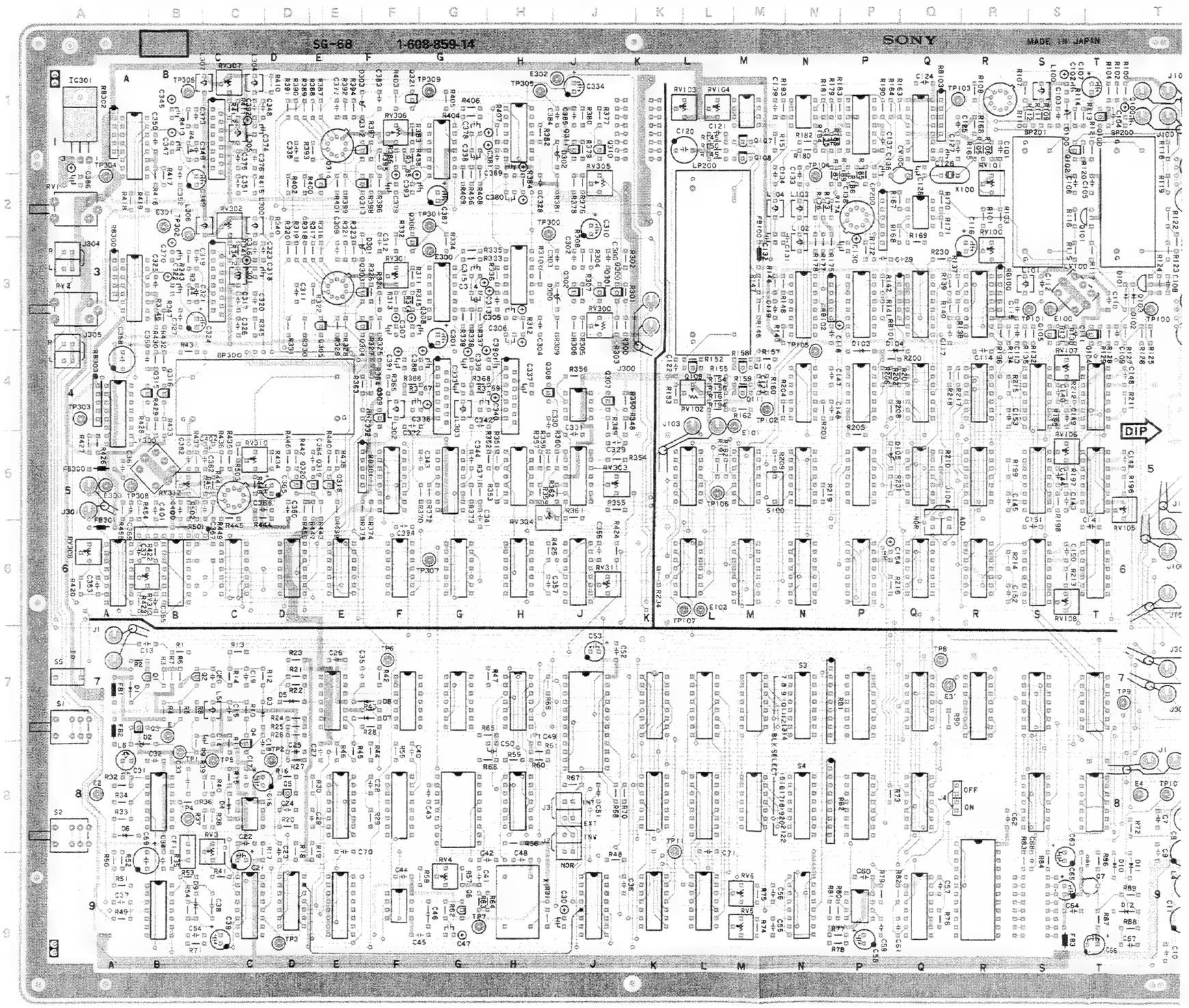
SG-67 BOARD (3/3)
BOARD NO. 1-608-858-11 & UP
BVT-800PS (FOR PAL); #10001 ~
BKT-801 (FOR PAL); #10001 ~

1 SG-68 BOARD (1-608-859-12 to 14)

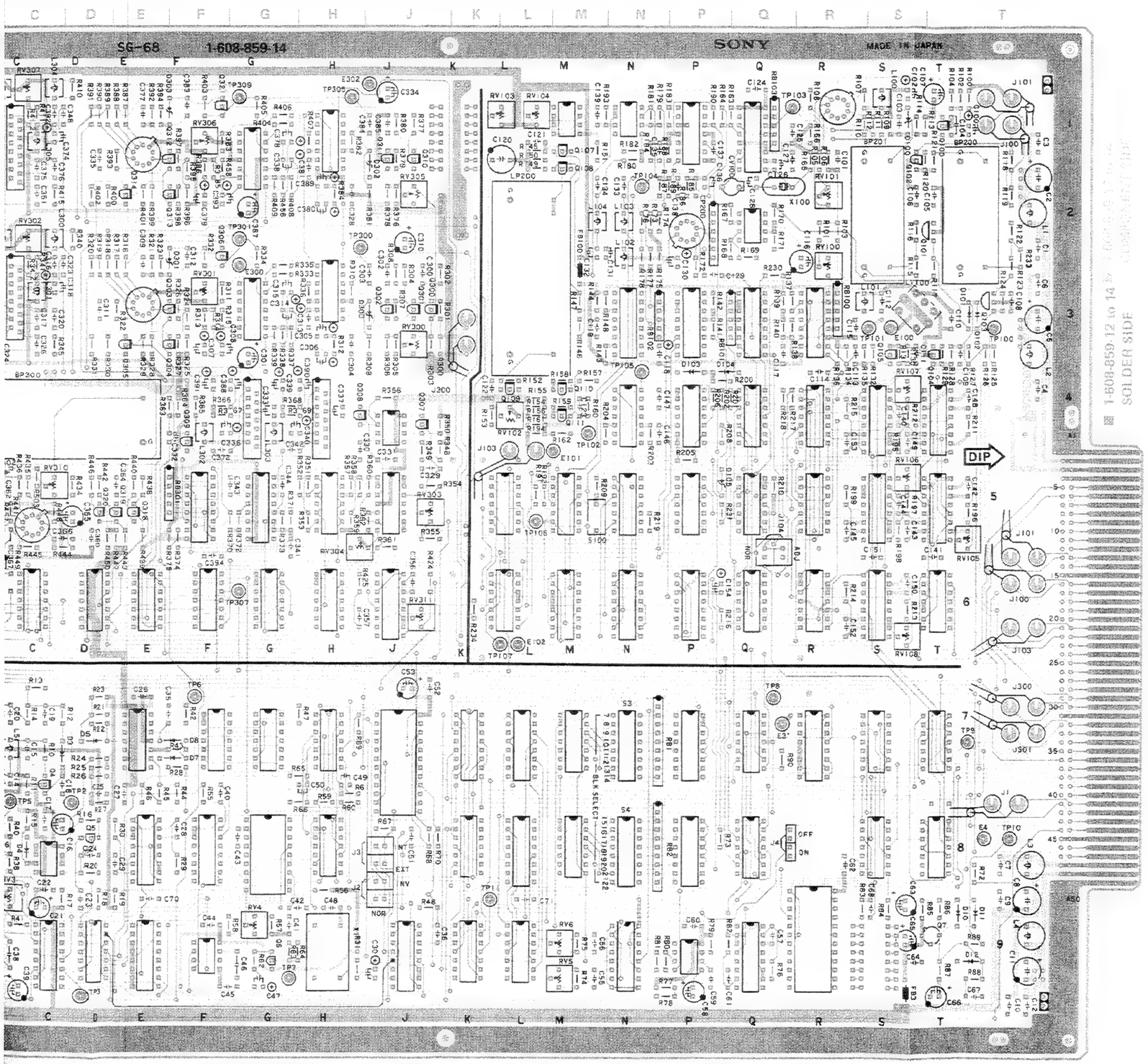
Component Side



C-25 (BVT-800PS)
C- 3 (BKT-802)



C-26 (BVT-800PS)
C- 4 (BKT-802)



C-26 (BVT-800PS)
C- 4 (BKT-802)

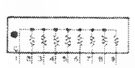
SG-68 (1-608-859-11 to 14)

BVT 800PS (FOR SECAM)
BKT 802 (FOR SECAM)

CP200	2P					RB1	7N
						RB2	8N
CV100	1Q					RB100	3R
						RB101	3Q
D1	7A					RB102	3N
D2	7A					RB103	1Q
D3	7C					RB300	3A
D4	8C					RB301	5F
D5	7D					RB302	1A
D6	8A					RB303	4A
D7	7F						
D8	7F					RV1	2A
D9	9B					RV2	3A
D10	9T					RV3	8C
D11	9T					RV4	8G
D12	9T					RV5	9M
D100	1S					RV6	9M
D101	3T					RV100	3R
D102	3T					RV101	1R
D103	4P					RV102	4L
D104	4Q					RV103	1L
D105	5P					RV104	1L
D300	3J					RV105	5T
D301	3F					RV106	5S
D302	1J					RV107	4S
D303	1F					RV108	6S
						RV300	3J
E1	7B					RV301	3F
E2	8A					RV302	2C
E3	7Q					RV303	5J
E4	8T					RV304	5H
E100	3S					RV305	1J
E101	4M					RV306	1F
E102	6L					RV307	1C
E300	3G					RV308	6A
E301	2B					RV310	5C
E302	1J					RV311	3J
E303	5A					RV312	5B
						RV313	6A
IC1A							
IC1C						S1	7A
IC1E						S2	8A
IC1G						S3	7N
IC1H						S4	8N
IC1M						S5	7A
IC1N						S100	5M
IC1P							
IC1Q						TP1	8B
IC1R						TP2	8D
IC2P						TP3	9D
IC2Q						TP4	8B
IC301	1A					TP5	8C
IC3A						TP6	7F
IC3C						TP7	9G
IC3F						TP8	7Q
IC3G						TP9	7T
IC3H						TP10	8T
IC3N						TP11	8K
IC3P						TP100	3T
IC3Q						TP101	3S
IC3R						TP102	4M
IC4A						TP103	1R
IC4G						TP104	1N
IC4H						TP105	4N
IC4J						TP106	5L
IC4N						TP107	6L
IC4P						TP300	2H
IC4Q						TP301	2G
IC4R						TP302	2B
IC4S						TP303	3A
IC4T						TP304	1A
IC5A						TP305	1H
IC5C						TP306	1B
IC5F						TP307	6G
IC5G						TP308	5A
IC5H						TP309	1G
IC5J							
IC5L						X1	9H
IC5M						X100	1Q
IC5N							
IC5P							
IC5Q							
IC5R							
IC5S							
IC5T							
IC6A							
IC6B							
IC6C							
IC6D							
IC6E							
IC6F							
IC6G							
IC6H							

CP200

RB1, 2

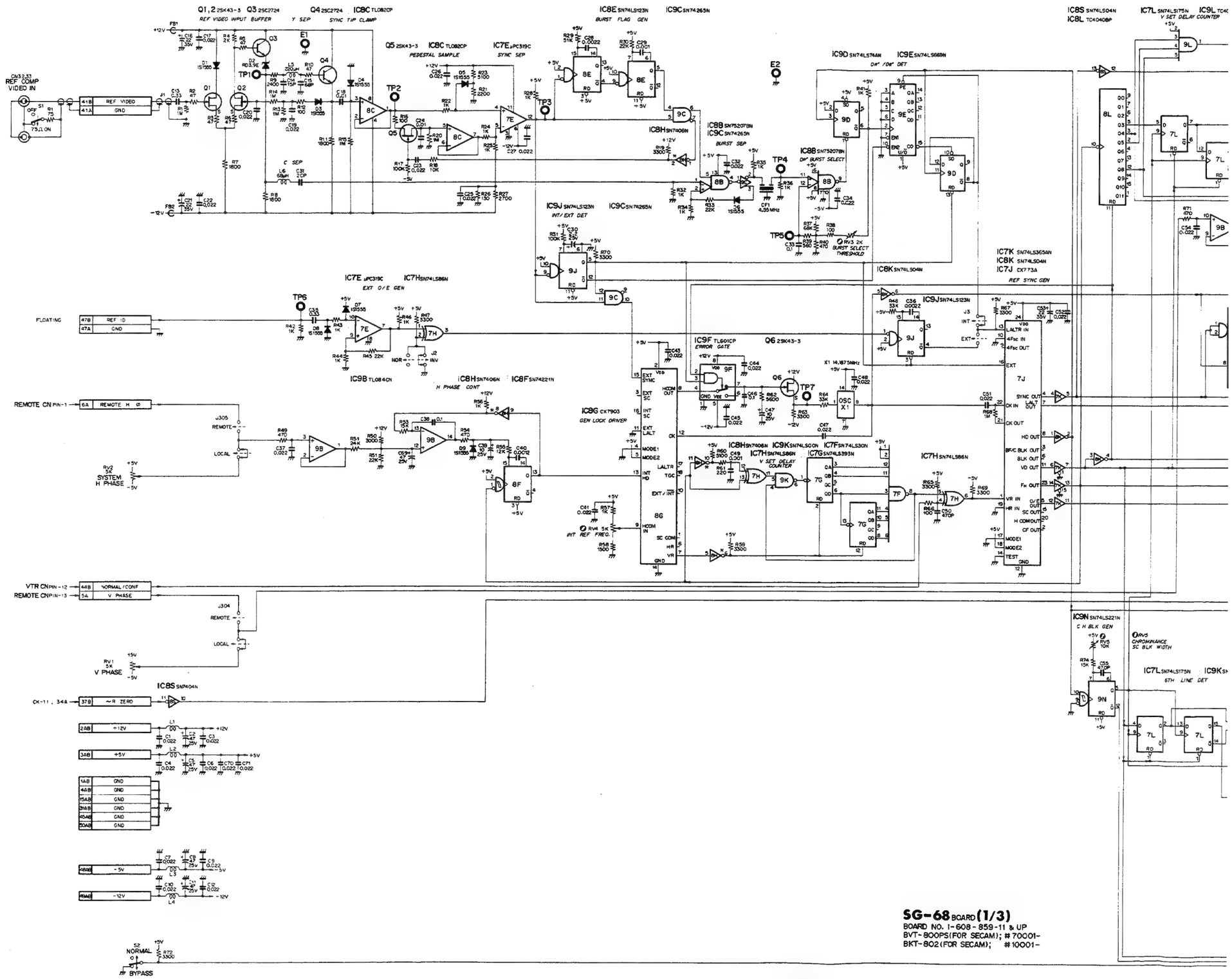


RB100, 101, 102, 103, 300, 301, 302, 303

C-27 (BVT-800PS)
C- 5 (BKT-802)

1 SG-68 BOARD (1/3); SECAM SYNC GEN

Reference Sync Generator
Advanced Sync Generator
Blanking Pulse Generator
Line DO Pulse Generator
Read Y Clamp Pulse Generator
System Phase Control
V Phase Control

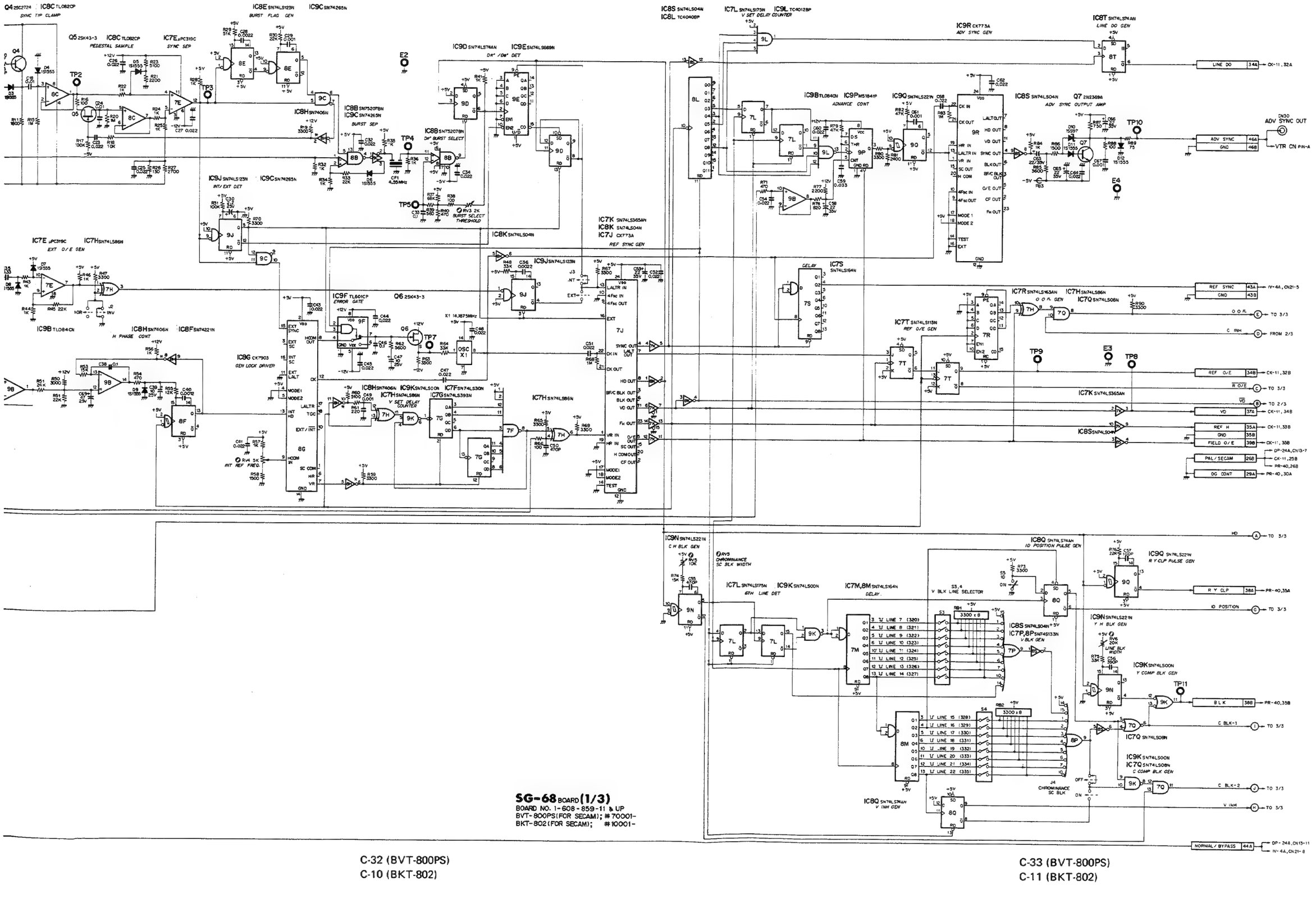


SG-68 BOARD (1/3)
BOARD NO. 1-608-859-11 & UP
BVT-800PS(FOR SECAM); # 70001-
BKT-802(FOR SECAM); # 10001-

C-31 (BVT-800PS)
C- 9 (BKT-802)

C-32 (BVT-800PS)
C-10 (BKT-802)

1 SG-68 (FOR SECAM) (1/3)



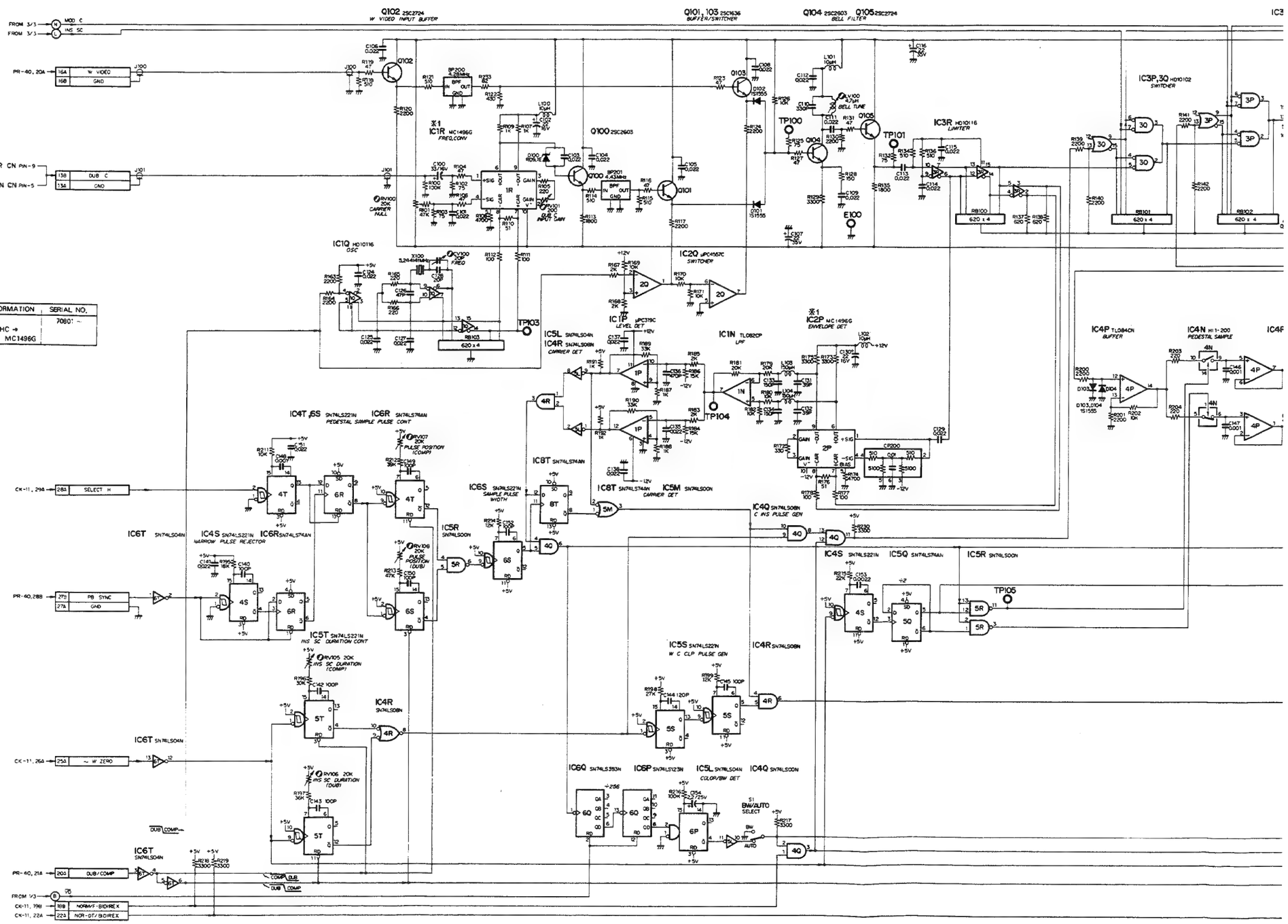
SG-68 BOARD **(1/3)**
BOARD NO. 1-608-859-11 & UP
BVT-800PS(FOR SECAM); #70001-
BKT-802(FOR SECAM); #10001-

C-32 (BVT-800PS)
C-10 (BKT-802)

C-33 (BVT-800PS)
C-11 (BKT-802)

1 SG-68 BOARD (2/3); SECAM SYNC GEN

Chroma Separator (for COMP)
Chroma Frequency Up Converter (for DUB)
D_R'/D_B' Demodulator
SECAM Carrier Detector
Chroma Insert Pulse Generator
Write Odd/Even Generator
Color/BW Detector
Write Chroma Clamp Pulse Generator



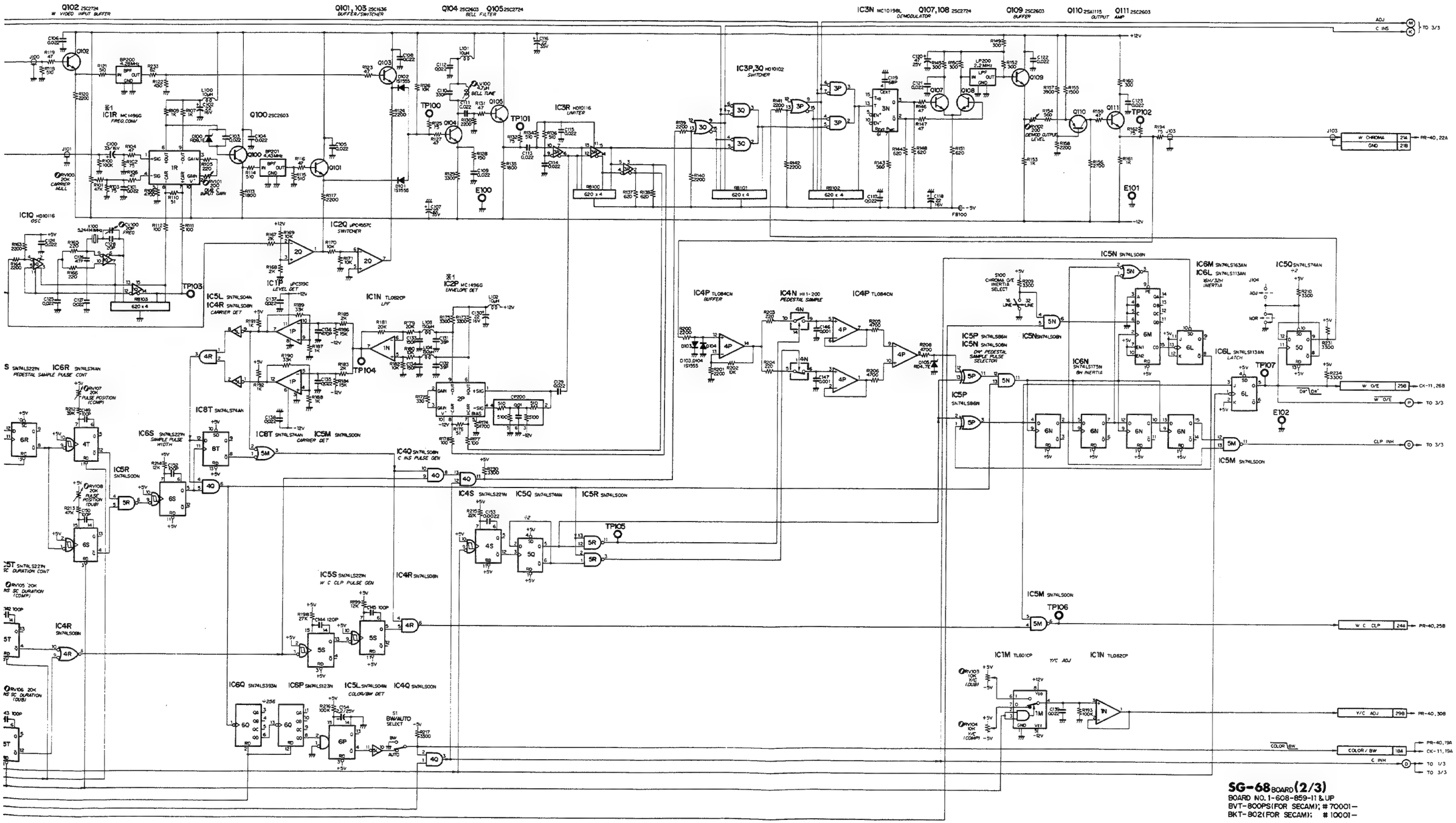
NOTE:

MARK	CHANGE INFORMATION	SERIAL NO.
※1	IC1R, 2P // A796HC → MC1496G	70801 ~

C-37 (BVT-800PS)
C-15 (BKT-802)

C-38 (BVT-800PS)
C-16 (BKT-802)

1 SG-68 (FOR SECAM) (2/3)

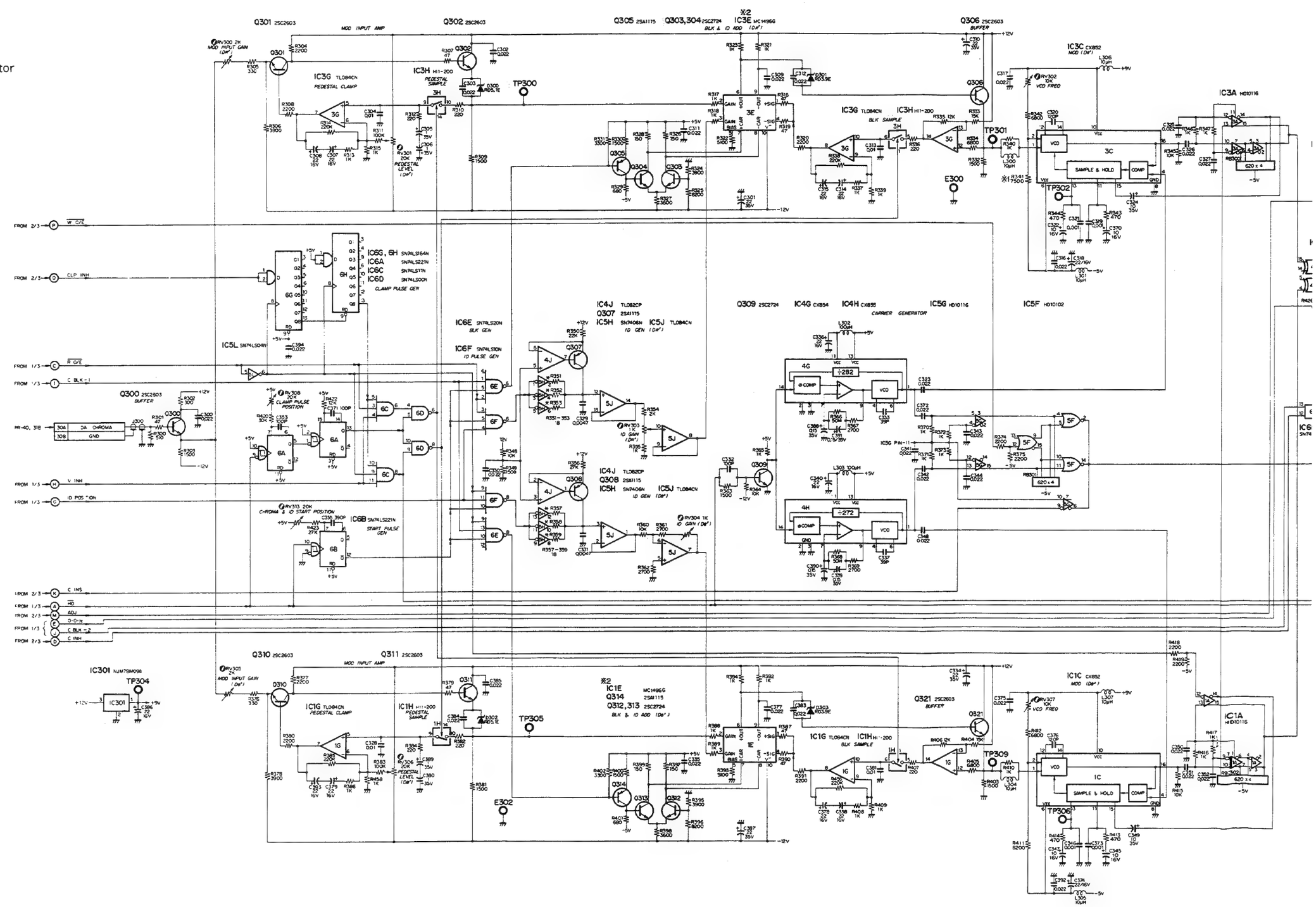


C-38 (BVT-800PS)
C-16 (BKT-802)

C-39 (BVT-800PS)
C-17 (BKT-802)

1 SG-68 BOARD (3/3); SECAM SYNC GEN

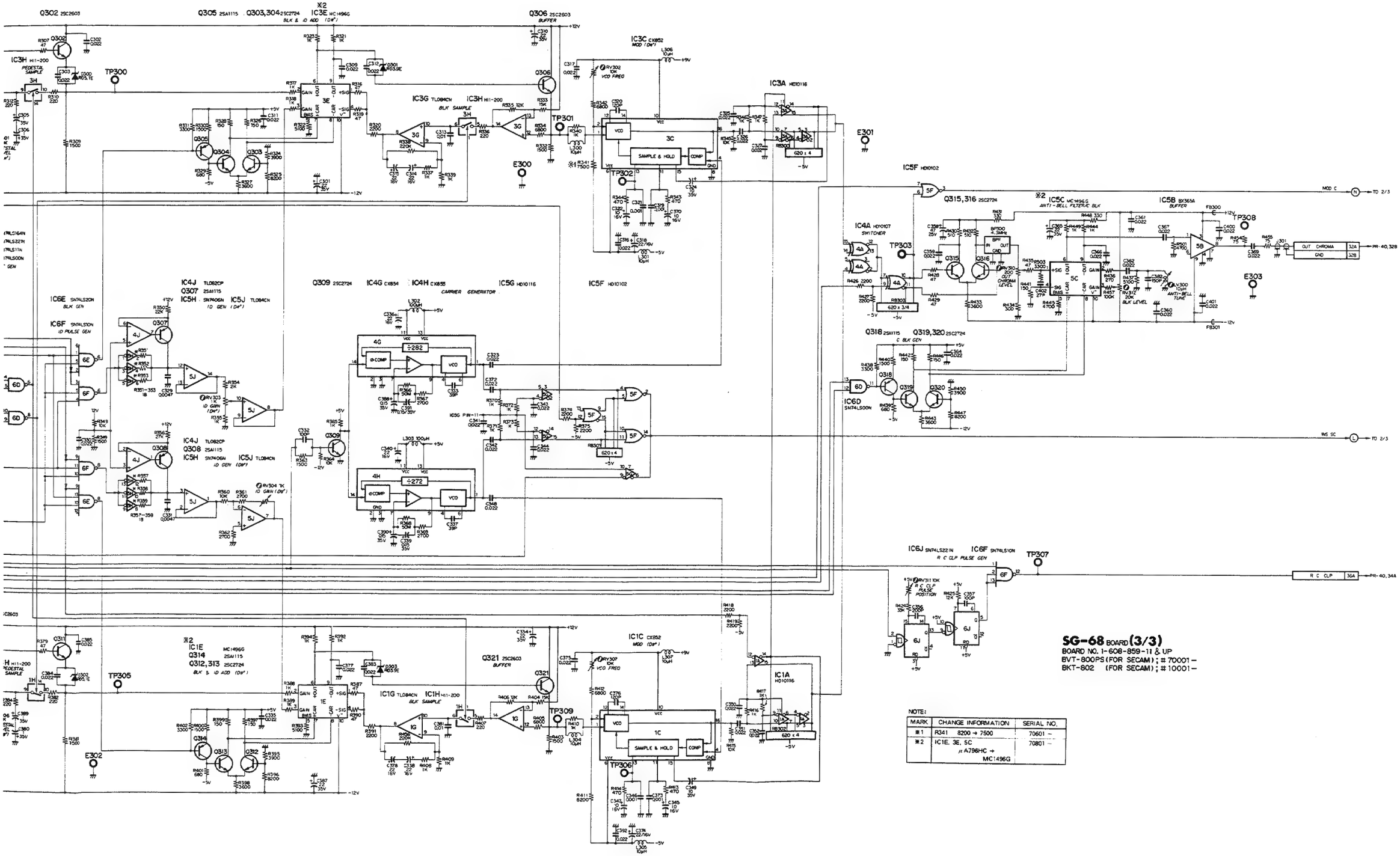
Chroma Clamper
ID Mixer
Carrier Generator
SECAM Frequency Modulator
Read Chroma Clamp Pulse Generator



C-43 (BVT-800PS)
C-21 (BKT-802)

C-44 (BVT-800PS)
C-22 (BKT-802)

1 SG-68 (FOR SECAM) (3/3)



NOTE:

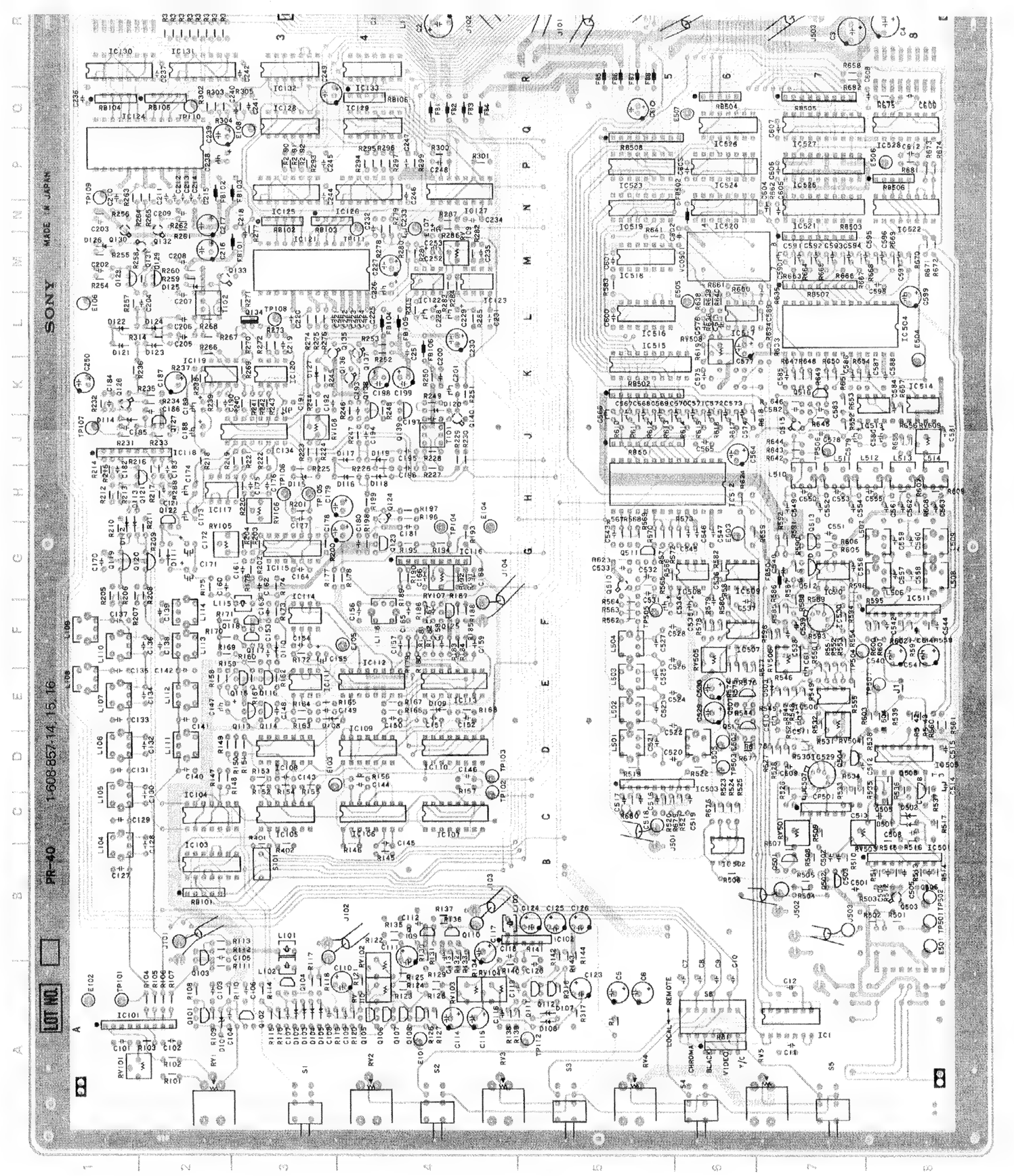
MARK	CHANGE INFORMATION	SERIAL NO.
※1	R341 8200 → 7500	70601 ~
※2	IC1E, 3E, 5C μA796HC → MC1496G	70801 ~

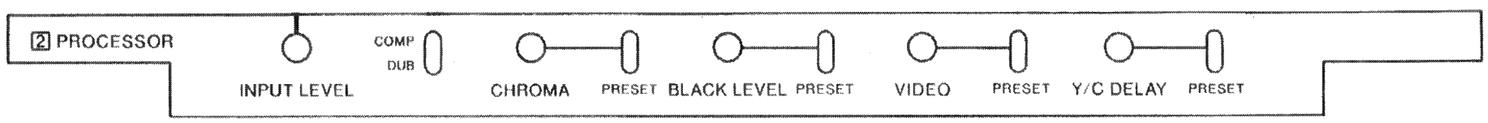
C-44 (BVT-800PS)
C-22 (BKT-802)

C-45 (BVT-800PS)
C-23 (BKT-802)

PR-40 | 2

PR-40 | 2

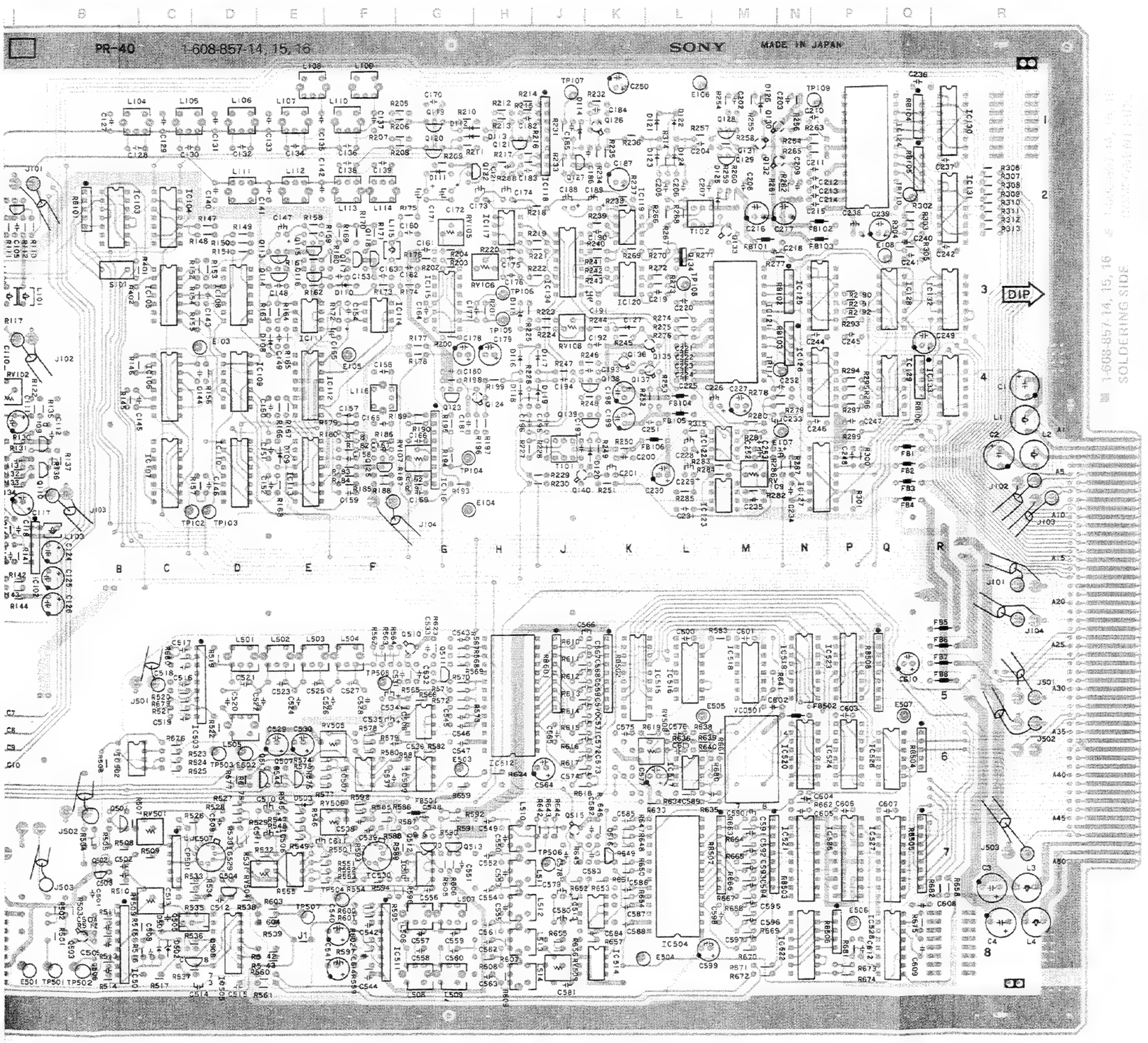




C-49

C-50

2 PR-40 BOARD (1-608-857-14, 15, 16)
Component Side



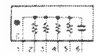
C-50

PR-40 (1-608-857-12, 13, 14, 15, 16)

SWITCHES

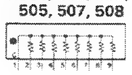
CP501	7C
D101	2A
D102	3A
D103	3A
D104	3A
D105	3A
D106	5A
D107	5A
D108	3E
D109	4E
D110	3F
D111	2G
D112	1G
D113	1G
D114	1J
D115	3H
D116	4H
D117	4J
D118	4H
D119	4J
D120	4K
D121	1L
D122	1L
D123	2L
D124	2L
D125	2M
D126	1M
D127	3K
D501	8C
D502	8C
D503	7E
E101	4A
E102	1A
E103	3D
E104	4G
E105	4F
E106	1L
E107	4N
E108	3Q
E501	8B
E502	6D
E503	6G
E504	8K
E505	6L
E506	8P
E507	6Q
IC1	7A
IC101	1A
IC102	5B
IC103	2B
IC104	2C
IC105	3C
IC106	4C
IC107	4C
IC108	3D
IC109	4D
IC110	4D
IC111	3E
IC112	4E
IC113	4E
IC114	3F
IC115	3G
IC116	4G
IC117	2H
IC118	1J
IC119	2K
IC120	3K
IC121	3M
IC122	4M
IC123	4M
IC124	2P
IC125	3P
IC126	4P
IC127	4P
IC128	3Q
IC129	4Q
IC130	1R
IC131	2R
IC132	3R
IC133	4R
IC134	3J
IC501	8B
IC502	6B
IC503	5D
IC504	7L
IC505	8D
IC506	7E
IC507	6F
IC508	6G
IC509	6G
IC510	7G
IC511	8F
IC512	5H
IC513	8K
IC514	8K
IC515	5K
IC516	5L
IC517	6L
IC518	5M
IC519	5N
IC520	5N
IC521	7N
IC522	8N
IC523	5P
IC524	6P
IC525	7P
IC526	6Q
IC527	7Q
IC528	8Q
IC529	7D
IC530	7F
Q101	2A
Q102	3A
Q103	2A
Q104	3A
Q105	4A
Q106	4A
Q107	4A
Q108	4A
Q109	4B
Q110	4B
Q111	5A
Q112	5A
Q113	3E
Q114	3E
Q115	3E
Q116	3E
Q117	3F
Q118	3F
Q119	1G
Q120	2G
Q121	1H
Q122	2H
Q123	4G
Q124	4H
Q125	4F
Q126	1K
Q127	2J
Q128	1M
Q129	2M
Q130	1N
Q131	1M
Q132	2N
Q133	2M
Q134	3L
Q135	3L
Q136	4K
Q137	4L
Q138	4K
Q139	4K
Q140	4J
Q501	7B
Q502	7B
Q503	8B
Q504	7D
Q505	8C
Q506	8C
Q507	6E
Q510	5G
Q511	5G
Q512	7G
Q513	7G
Q515	7J
Q516	7K
Q517	6E
RB1	6A
RB101	2B
RB102	3N
RB103	3N
RB104	1Q
RB105	2Q
RB106	4Q
RB501	5J
RB502	5K
RB503	7M
RB504	6Q
RB505	7Q
RB506	8P
RB507	7M
RB508	5P
RV1	2A
RV2	4A
RV3	4A
RV4	5A
RV5	7A
RV101	1A
RV102	4A
RV103	4A
RV104	4A
RV105	2G
RV106	3H
RV107	4G
RV108	3J
RV109	4M
RV110	4A
RV501	7C
RV503	7C
RV504	7E
RV505	6F
RV506	7F
RV508	6K
RV509	8J
S1	3A
S2	4A
S3	5A
S4	6A
S5	7A
S6	6A
S101	3B
TP101	1A
TP102	4C
TP103	4D
TP104	4G
TP105	3H
TP106	3H
TP107	1J
TP108	3L
TP109	1P
TP110	2Q
TP111	4N
TP112	5A
TP501	8B
TP502	8B
TP503	6D
TP504	7F
TP505	5F
TP506	7J
TP507	8E
VCO501	6M

CP501



RB1, 101, 102, 103, 104, 105, 106, 504, 506

R501, 502, 503, 505, 507, 508



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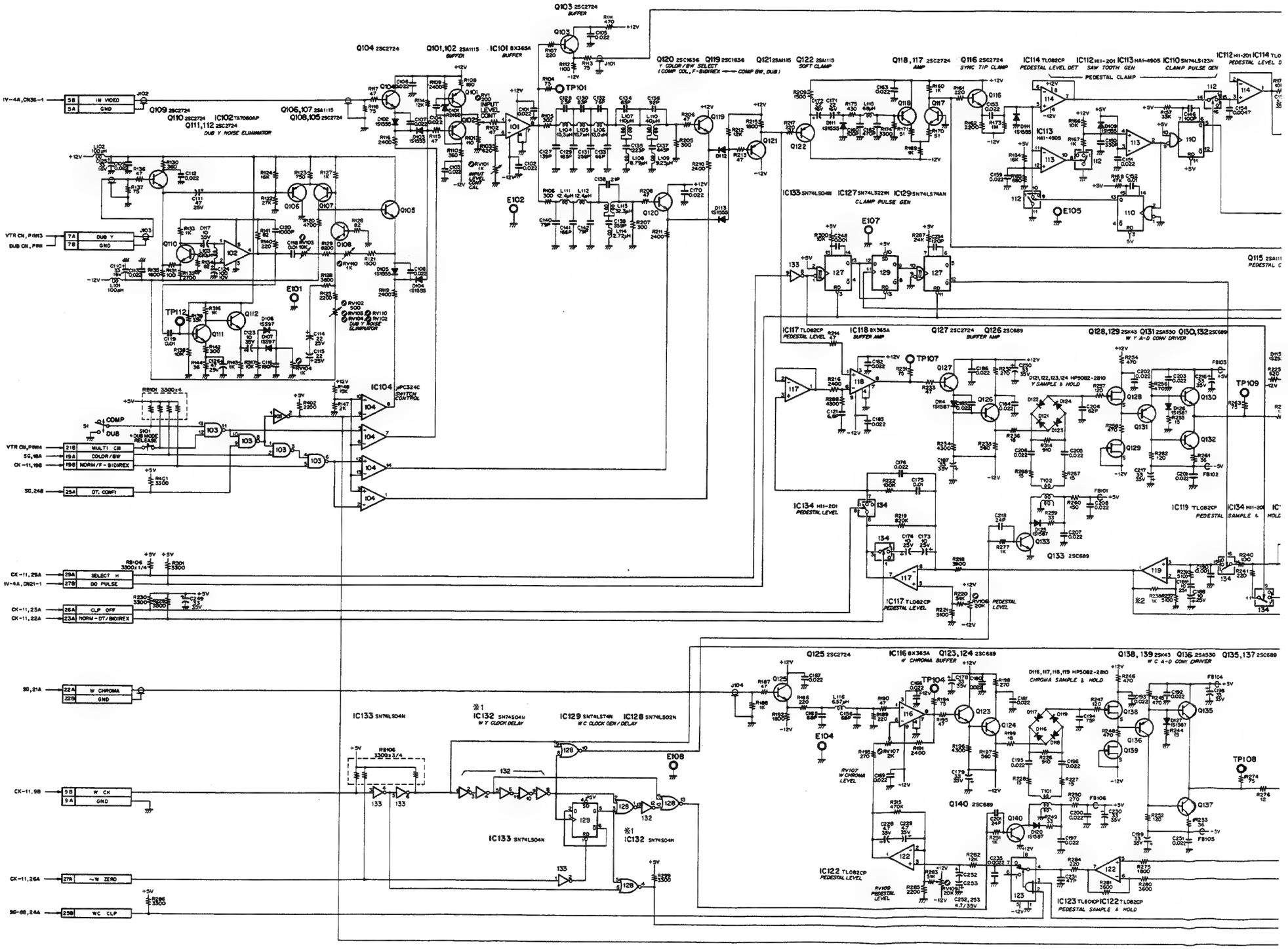
2 PR-40 BOARD (1/2); PROCESSOR

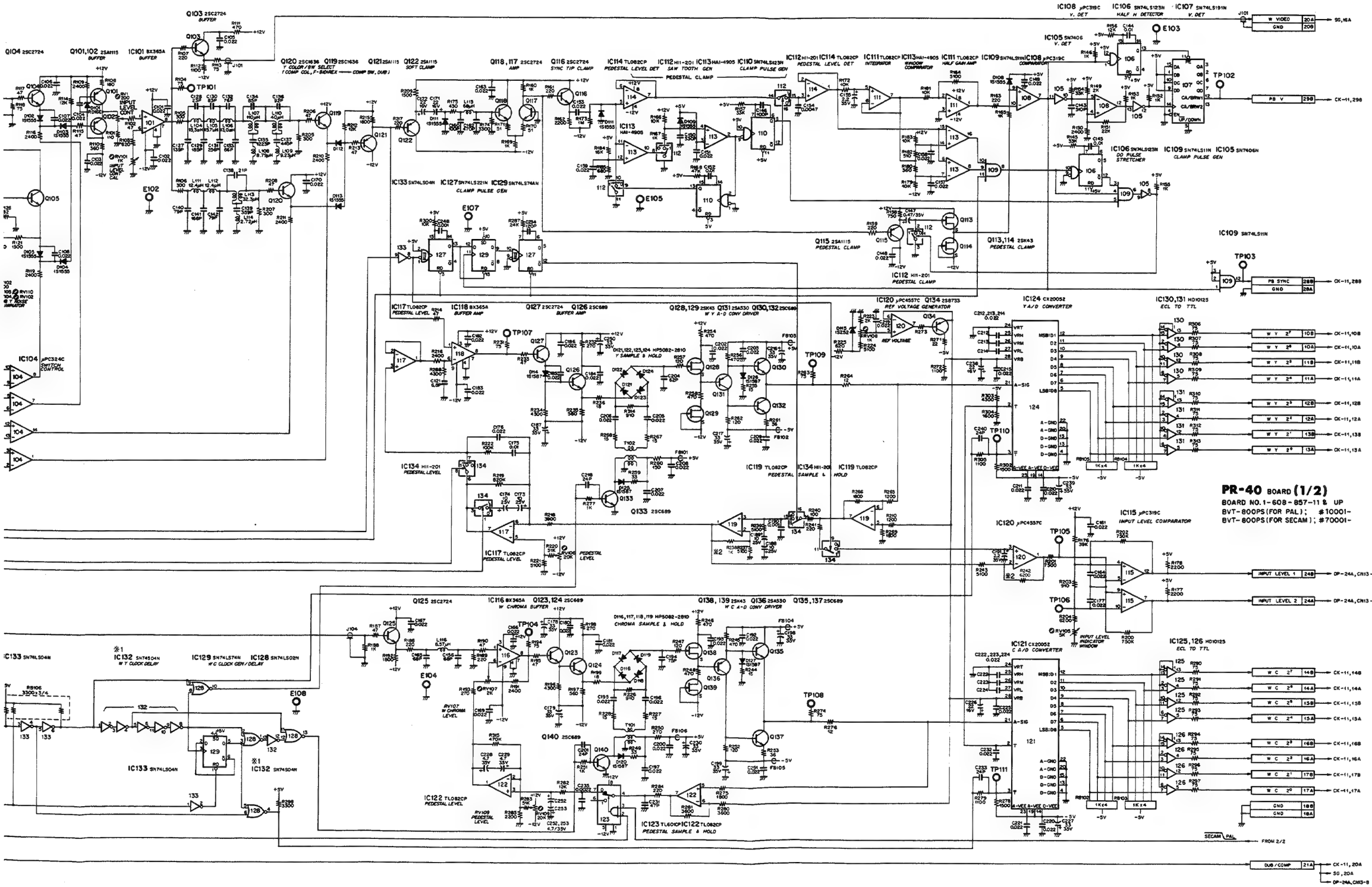
DUB Y Noise Eliminator
Input Level Control
Y Color/BW Select
PB V, PB Sync Generator
Y A-D Converter
Input Level Detector
C A-D Converter

NOTE:

MARK	CHANGE INFORMATION	SERIAL NO.
※1	IC132 SN74LS04N → SN74S04N	P: 11901 ~ S: 70301 ~
※2	R238 5100 → 1K R242 5100 → 6200	P: 14101 ~ S: 71101 ~



C-55 C-56

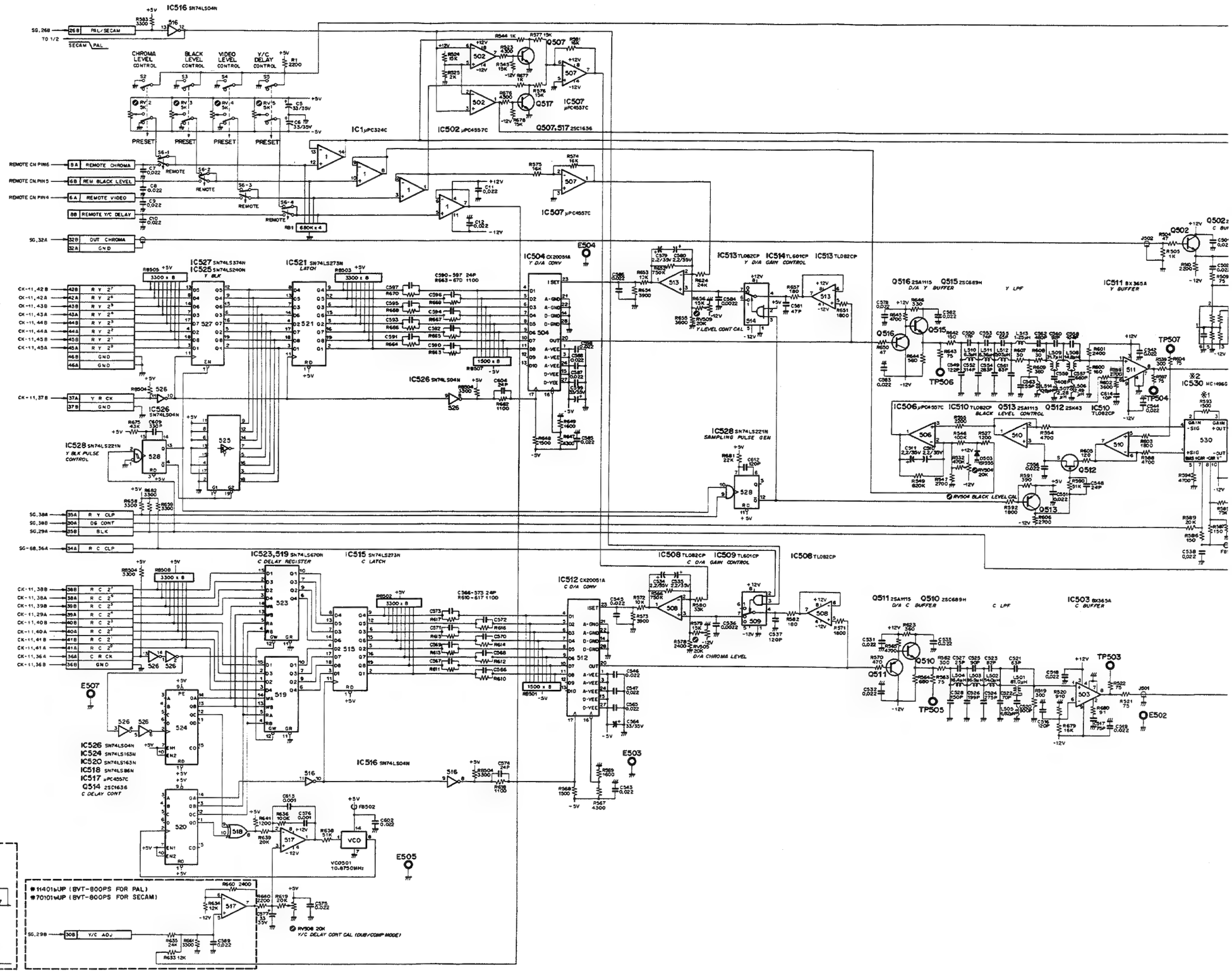

PR-40 BOARD (1/2)
BOARD NO.1-608-857-11 & UP
BVT-800PS(FOR PAL); #10001-
BVT-800PS(FOR SECAM); #70001-
IC108 μPC319C V. DET
IC106 SN74LS123N HALF H DETECTOR
IC107 SN74LS191N V. DET
IC105 SN7406 V. DET
IC109 SN74LS11N CLAMP PULSE GEN
IC106 SN74LS123N DD PULSE STRETCHER
IC114 TL082CP PEDESTAL LEVEL DET
IC112 HI1-201 SAW TOOTH GEN
IC113 HA1-4905 PEDESTAL CLAMP
IC110 SN74LS123N CLAMP PULSE GEN
IC112 HI1-201 PEDESTAL LEVEL DET
IC114 TL082CP INTEGRATOR
IC111 TL082CP WINDOW COMPARATOR
IC113 HA1-4905 HALF GAIN AMP
IC111 TL082CP COMPARATOR
IC109 SN74LS11N
IC108 μPC319C
IC133 SN74LS04N
IC127 SN74LS221N
IC129 SN74LS74AN
CLAMP PULSE GEN
IC112 HI1-201 PEDESTAL CLAMP
Q115 2SA1115 PEDESTAL CLAMP
Q113,114 2SK43 PEDESTAL CLAMP
IC109 SN74LS11N
IC104 μPC324C SWITCH CONTROL
IC117 TL082CP PEDESTAL LEVEL
IC118 BX365A BUFFER AMP
Q127 2SC2724 Q126 2SC689 BUFFER AMP
Q128,129 2SK43 Q131 2SA530 Q130,132 2SC549 W Y A-D CONV DRIVER
IC120 μPC4557C Q134 2SB733 REF VOLTAGE GENERATOR
IC124 CX20052 Y A/D CONVERTER
IC130,131 MD10123 ECL TO TTL
IC134 HI1-201 PEDESTAL LEVEL
IC117 TL082CP PEDESTAL LEVEL
Q133 2SC689
IC119 TL082CP PEDESTAL SAMPLE & HOLD
IC134 HI1-201 SAMPLE & HOLD
IC119 TL082CP HOLD
IC120 μPC4557C
IC115 μPC319C INPUT LEVEL COMPARATOR
IC133 SN74LS04N
※1 IC132 SN74S04N W Y CLOCK DELAY
IC129 SN74LS74N W C CLOCK GEN/DELAY
IC128 SN74LS02N
IC133 SN74LS04N
※1 IC132 SN74S04N
Q125 2SC2724
IC116 BX365A W CHROMA BUFFER
Q123,124 2SC689
Q138,139 2SK43 Q136 2SA530 Q135,137 2SC689
W C A-D CONV DRIVER
IC121 CX20052 C A/D CONVERTER
IC125,126 MD10123 ECL TO TTL
IC122 TL082CP PEDESTAL LEVEL
IC123 TL601CP IC122 TL082CP PEDESTAL SAMPLE & HOLD
SECAM PAL
FROM 2/2

2 PR-40 BOARD (2/2); PROCESSOR

Y D-A Converter
C D-A Converter
Video, Chroma, Black Level Control
Y/C Delay, DG Compensation Control

NOTE:

MARK	CHANGE INFORMATION	SERIAL NO.
※1	R593 1800 ⇒ 1500	P: 13001 ~ S: 70601 ~
※2	IC529, 530 μA796HC ⇒ MC1496G	P: 16701 ~ S: 70801 ~



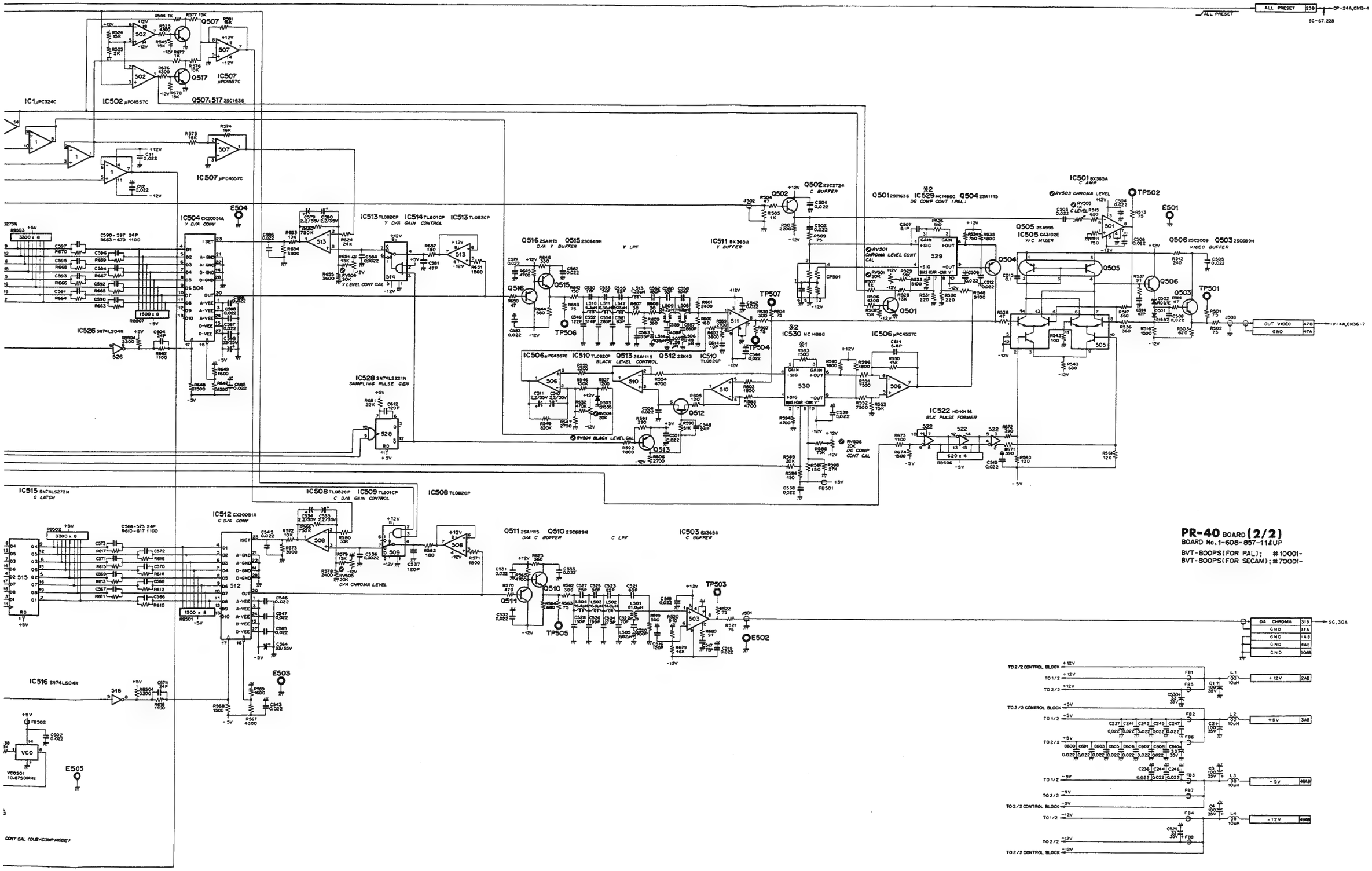
UP TO #11399 (BVT-800PS FOR PAL)
UP TO #70099 (BVT-800PS FOR SECAM)

C-61

#11401 & UP (BVT-800PS FOR PAL)
#70101 & UP (BVT-800PS FOR SECAM)

C-62

2 | PR-40 (2/2)



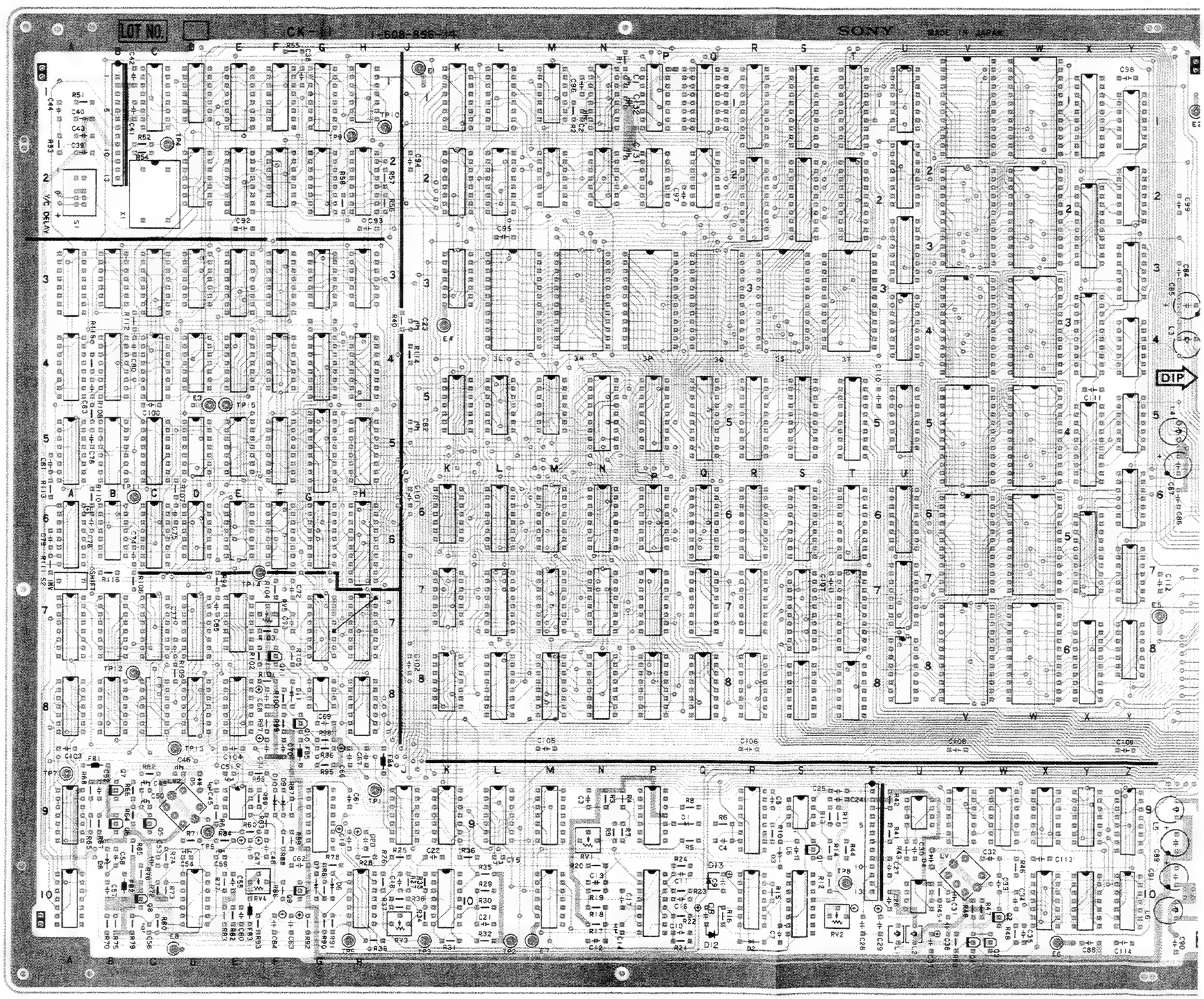
PR-40 BOARD (2/2)
BOARD No.1-608-857-11 UP
BVT-800PS(FOR PAL); #10001-
BVT-800PS(FOR SECAM); #70001-

3 | CK-11 CK-11 | 3

3 CK-11 BOARD (1-608-856-14)

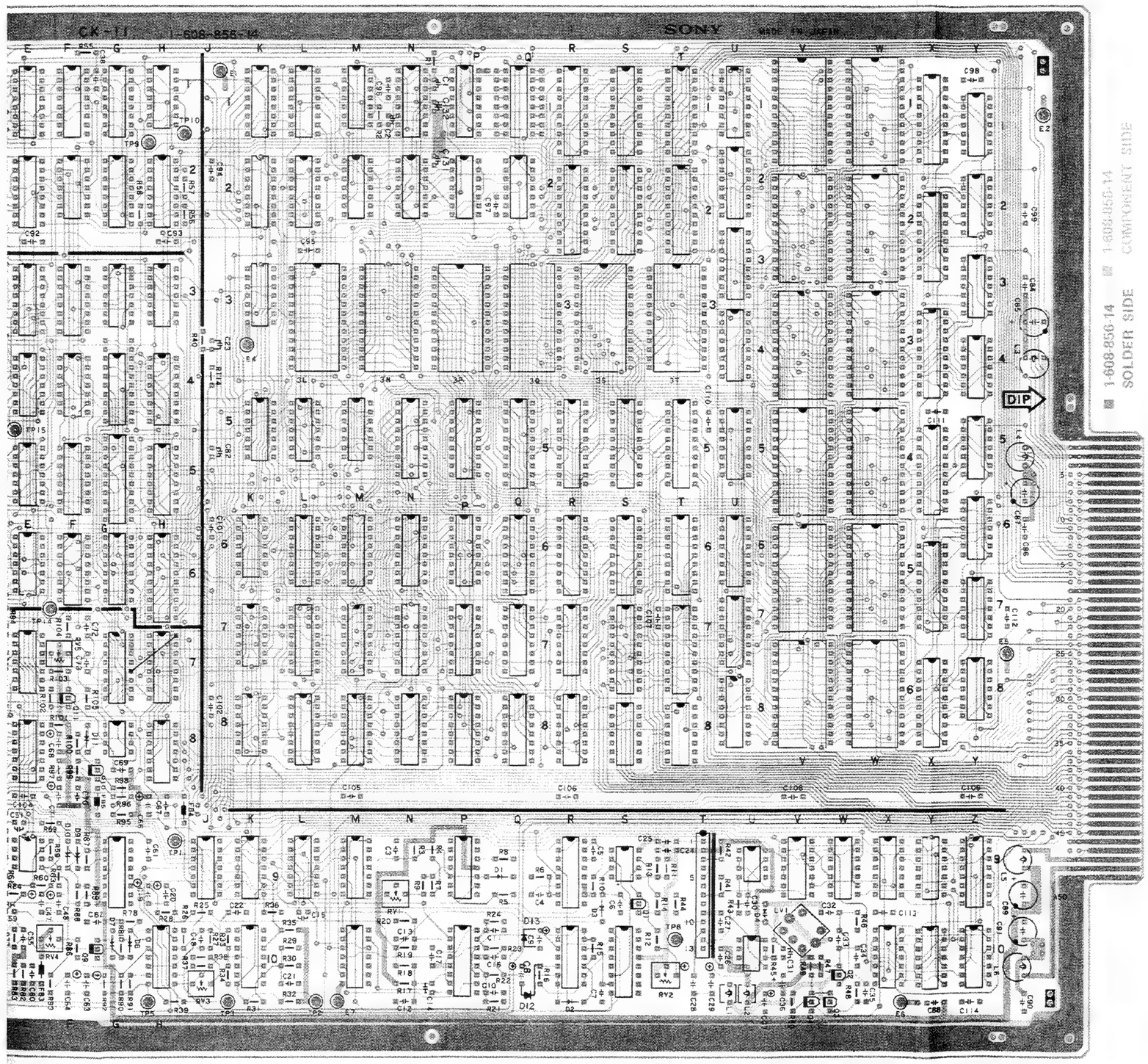
Component Side

3 CLOCK GEN



C-64

C-65



C-65

CK-11 (1-608-856-11 to 14)

BVT-80GPS

D1	9Q
D2	10R
D3	9S
D4	9U
D5	9D
D6	10G
D7	10G
D8	10B
D9	9F
D10	9F
D11	8F
D12	10Q
D13	10Q
E1	1J
E2	1Z
E3	8D
E4	4K
E5	8Y
E6	10X
E7	10M
E8	10D

IC1B
IC1C
IC1D
IC1E
IC1F
IC1G
IC1H
IC1K
IC1L
IC1M
IC1N
IC1P
IC1R
IC1S
IC1T
IC1U
IC1V
IC1W
IC1X
IC1Y
IC2D
IC2E
IC2F
IC2G
IC2K
IC2L
IC2M
IC2N
IC2P
IC2Q
IC2R
IC2S
IC2T
IC2U
IC2V
IC2W
IC2X
IC2Y
IC3A
IC3B
IC3C
IC3D
IC3E
IC3F
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IC3H
IC3K
IC3L
IC3N
IC3P
IC3Q
IC3S
IC3T
IC3U
IC3V
IC3W
IC3X
IC3Y
IC4A
IC4B
IC4C
IC4D
IC4E
IC4F
IC4G
IC4H
IC4U
IC4V
IC4W
IC4X
IC4Y
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IC5V
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IC5X
IC5Y
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IC6U
IC6V
IC6W
IC6X
IC6Y
IC7A
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IC7C
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IC8Q
IC8R
IC8S
IC8T
IC8U
IC8Y
IC9A
IC9E
IC9G
IC9J
IC9K
IC9L
IC9M
IC9P
IC9R
IC9S
IC9T
IC9U
IC9V
IC9W
IC9X
IC9Y
IC9Z
IC10A
IC10D
IC10H
IC10K
IC10M
IC10P
IC10R
IC10S
IC10U
IC10X
IC10Y
IC10Z

LV1	10V
LV2	9D
Q1	9S
Q2	10W
Q3	10W
Q4	10V
Q5	9C
Q6	9B
Q7	9B
Q8	10C
Q9	10F
Q10	8F
Q11	7F
RV1	9M
RV2	10T
RV3	10J
RV4	10E
RV5	7E
S1	2A
S2	6A
TP1	9H
TP2	10L
TP3	10J
TP4	1C
TP5	10H
TP6	9D
TP7	9A
TP8	10T
TP9	1H
TP10	1J
TP11	5B
TP12	7B
TP13	8D
TP14	6E
TP15	4E
X1	2C

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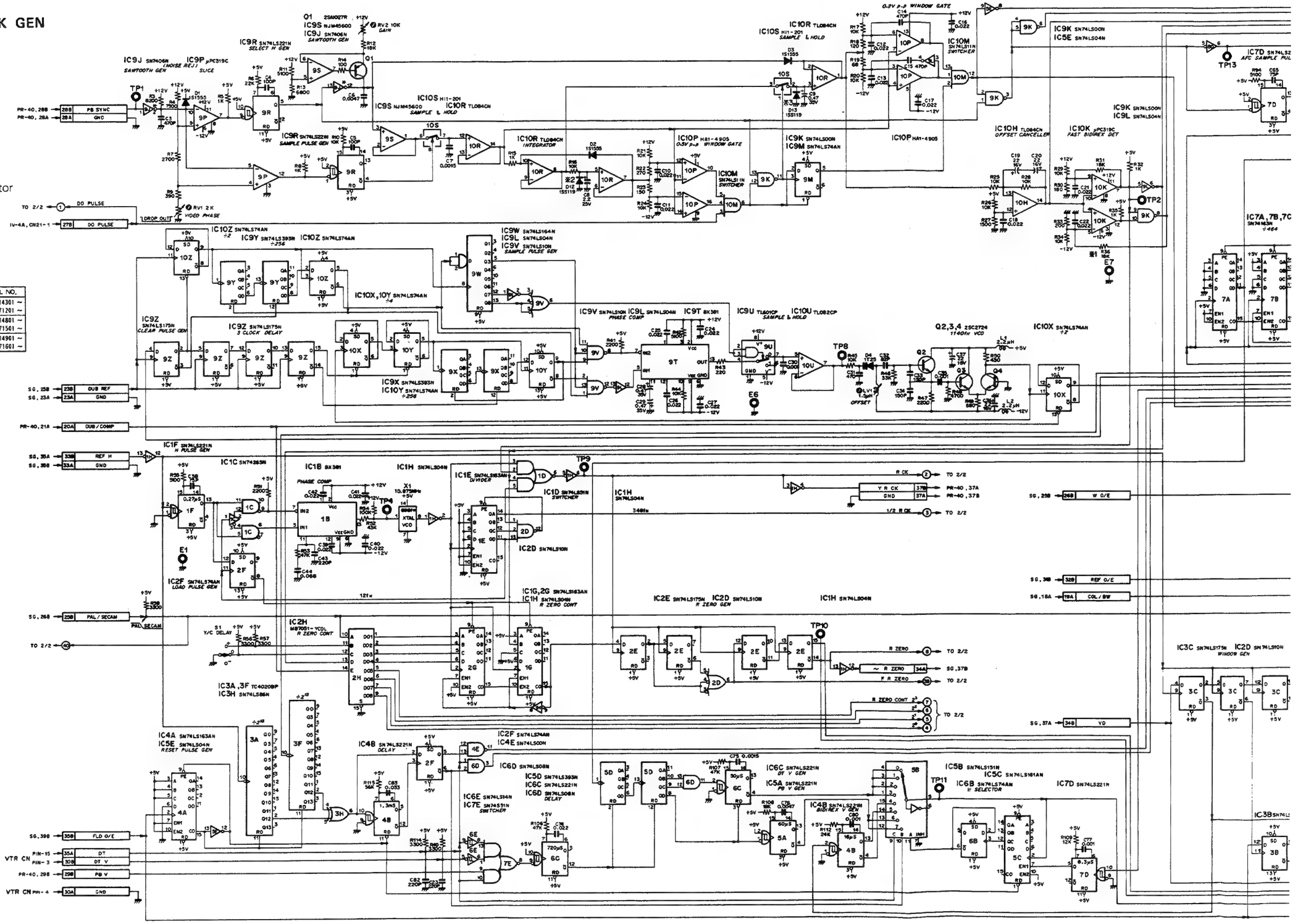
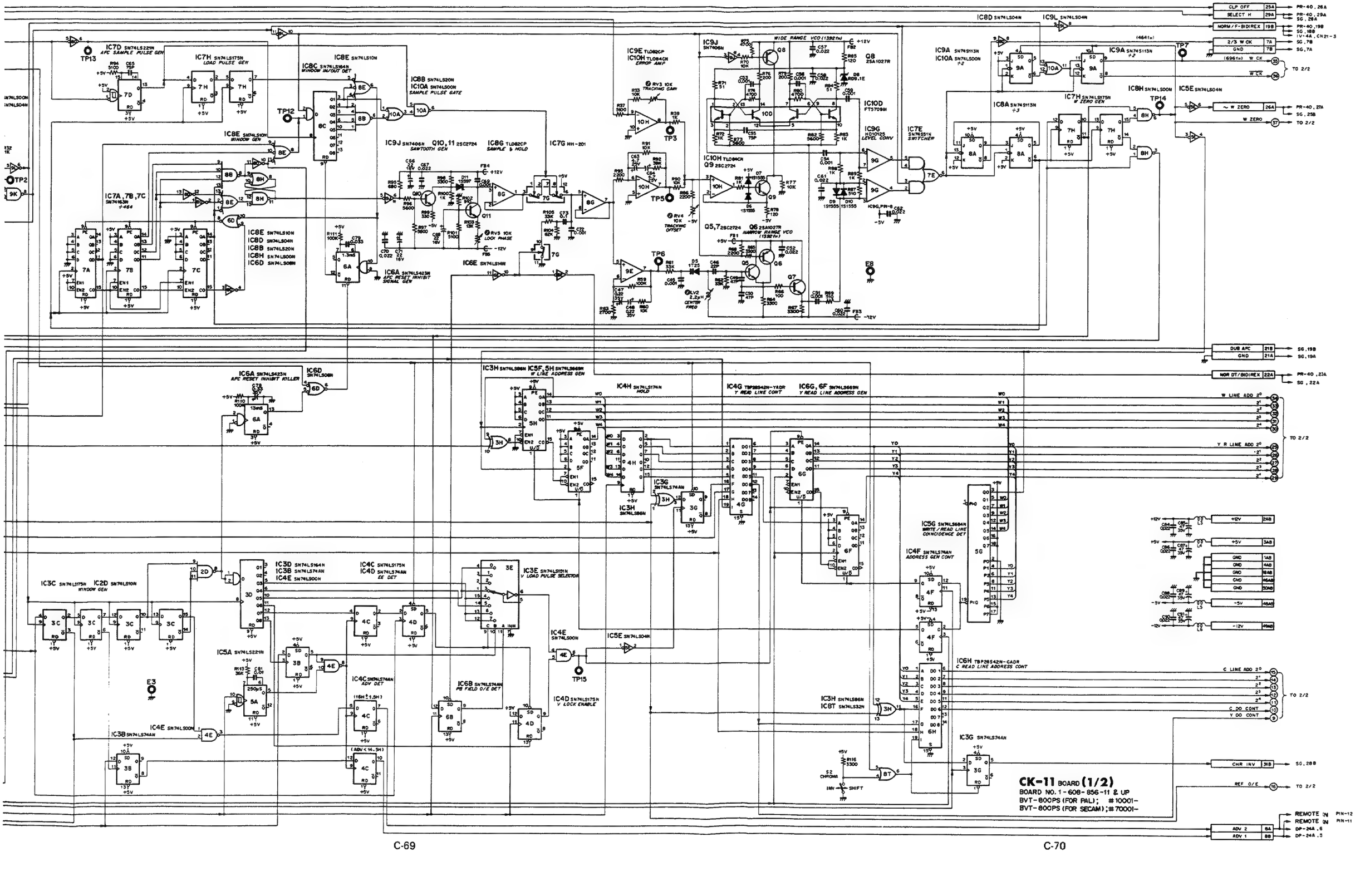
3 CK-11 BOARD (1/2); CLOCK GEN

Select H Generator
AFC (Write Clock Generator)
Write Zero Generator
Read Clock Generator
Read Zero Generator
W/R Line Address Generator
V Timing Selector
Bidirex Detector
Fast Bidirex Detector
EE/Advance Detector
Chroma Up Conv Carrier Generator

NOTE:

MARK	CHANGE INFORMATION	SERIAL NO.
※1	R36 13K → 18K	P: 14301 ~ S: 71201 ~
※2	ADDED D12 1SS119	P: 14801 ~ S: 71501 ~
※3	ADDED D13 1SS119	P: 14901 ~ S: 71601 ~

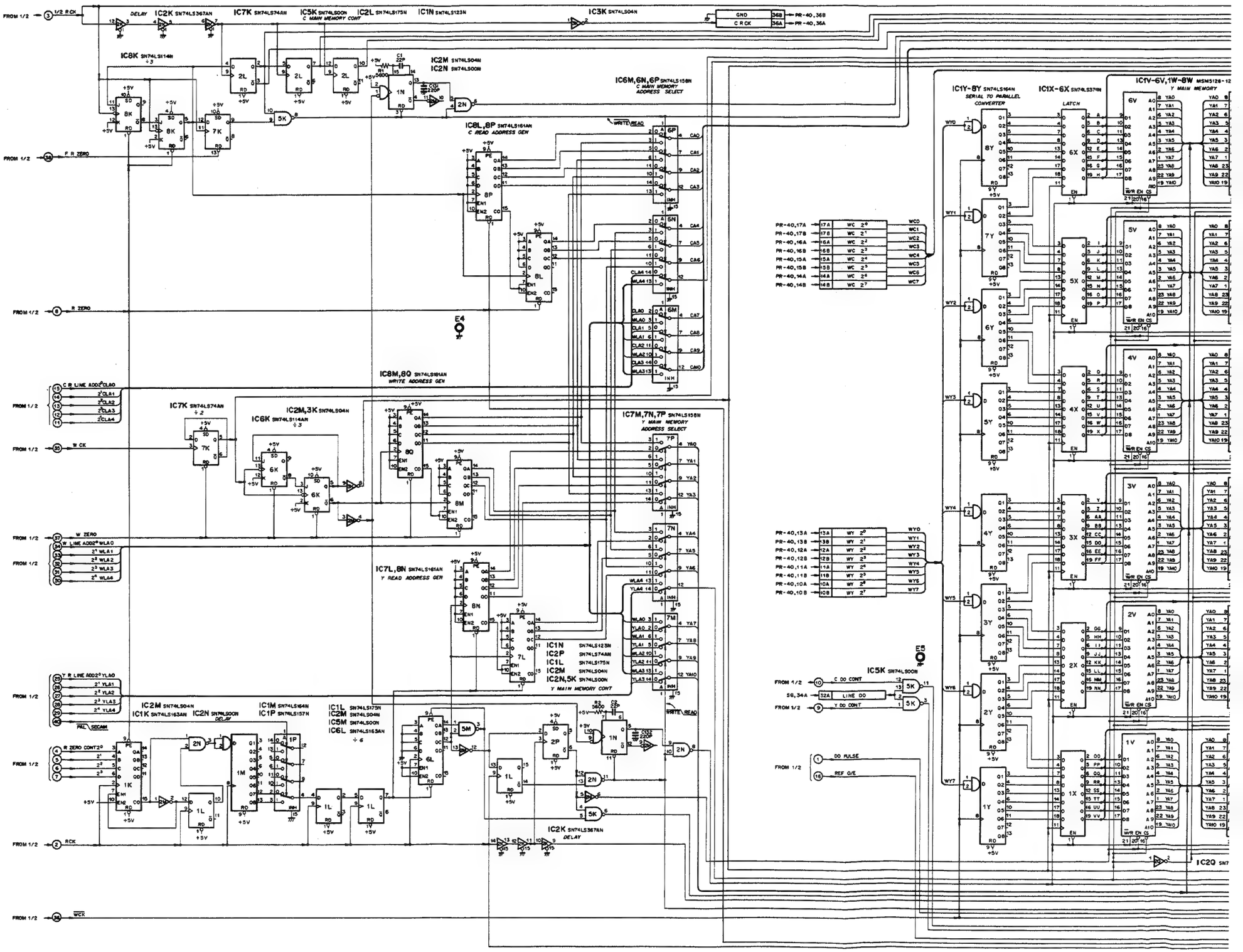



CK-11 BOARD (1/2)
BOARD NO. 1-608-856-11 & UP
BVT-800PS (FOR PAL); #10001-
BVT-800PS (FOR SECAM); #70001-
IC7D SN74LS221N APC SAMPLE PULSE GEN
IC7H SN74LS175N LOAD PULSE GEN
IC8E SN74LS10N
IC8C SN74LS164N WINDOW IN/OUT DET
IC8B SN74LS20N
IC10A SN74LS00N SAMPLE PULSE GATE
IC8E SN74LS10N WINDOW GEN
IC7A,7B,7C SN74163N ÷464
IC8E SN74LS10N
IC8D SN74LS04N
IC8B SN74LS20N
IC8H SN74LS00N
IC6D SN74LS08N
IC6A SN74LS423N APC RESET INHIBIT SIGNAL GEN
IC9J SN7406N Q10,11 2SC2724 SAWTOOTH GEN
IC8G TL082CP SAMPLE & HOLD
IC7G HH-201
IC9E TL082CP
IC10H TL084CN ERROR AMP
IC9J SN7406N
WIDE RANGE VCO (1392fH)
Q8 2SA1027R
IC10D FT3709M
IC9G HD10125 LEVEL CONV
IC10H TL084CN
Q9 2SC2724
Q5,7 2SC2724
Q6 2SA1027R NARROW RANGE VCO (1392fH)
IC6E SN74LS14N
IC8D SN74LS04N
IC9L SN74LS04N
IC9A SN74S113N ÷2
IC10A SN74LS00N ÷2
IC8A SN74S113N ÷3
IC7H SN74LS175N W ZERO GEN
IC7E SN74S51N SWITCHER
IC8H SN74LS00N
IC5E SN74LS04N
TP7
TP14
CLP OFF 25A
SELECT H 29A
NORM/F-BIDIREK 19B
2/3 W CK 7A
GND 7B
W CK
W ZERO 26A
W ZERO 27A
DUB APC 21B
GND 21A
NOR DT/BIDIREK 22A
W LINE ADD 2⁰ 2¹ 2² 2³ 2⁴
Y R LINE ADD 2⁰ 2¹ 2² 2³ 2⁴
TO 2/2
IC6A SN74LS423N APC RESET INHIBIT KILLER
IC6D SN74LS08N
IC3H SN74LS86N IC5F,5H SN74LS669N W LINE ADDRESS GEN
IC4H SN74LS174N HOLD
IC4G TBP28S42N-YADR Y READ LINE CONT
IC6G,6F SN74LS669N Y READ LINE ADDRESS GEN
IC3G SN74LS74AN
IC3H SN74LS86N
IC5G SN74LS684N WRITE/READ LINE COINCIDENCE DET
IC4F SN74LS74AN ADDRESS GEN CONT
IC3C SN74LS175N IC2D SN74LS10N WINDOW GEN
IC3D SN74LS164N IC3B SN74LS74AN IC4E SN74LS00N EE DET
IC4C SN74LS175N IC4D SN74LS74AN
IC3E SN74LS121N V LOAD PULSE SELECTION
IC5A SN74LS221N
IC4C SN74LS74AN ADV DET
IC6B SN74LS74AN PB FIELD O/E DET
IC4D SN74LS175N V LOCK ENABLE
IC4E SN74LS00N
IC5E SN74LS04N
IC6H TBP28S42N-CADR C READ LINE ADDRESS CONT
IC3H SN74LS86N IC8T SN74LS32N
IC3G SN74LS74AN
C LINE ADD 2⁰ 2¹ 2² 2³ 2⁴
C DO CONT
Y DO CONT
CHR INV 31B
REF O/E 16
REMOTE IN PIN-12
REMOTE IN PIN-11
ADV 2 9A
ADV 1 9B
+12V 24B
+5V 3AB
GND 1AB 4AB 18AB 45AB 50AB
-5V 46AB
-12V 49AB
TO 2/2
SG,19B
SG,19A
SG,22A
SG,28B
SG,7A
SG,7B
SG,25B
SG,27A
PR-40,26A
PR-40,29A
PR-40,19B
PR-40,23A
1V-4A, CN21-3
(4641fH)
(6961fH)
S2 CHROMA
INV — SHIFT

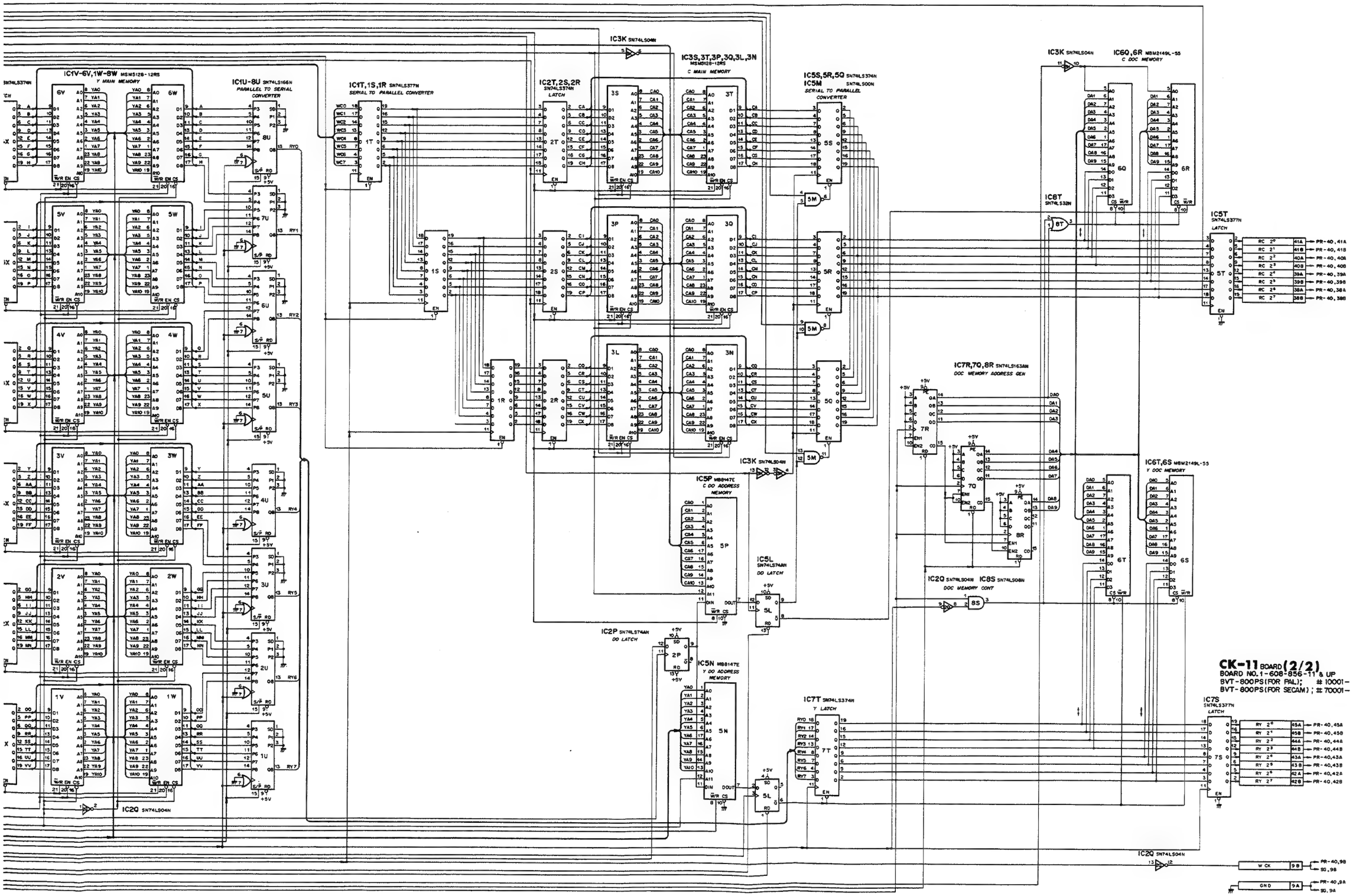
C-69 C-70

3 CK-11 BOARD (2/2); CLOCK GEN

32-Line Main Memory
DOC Memory
Serial to Parallel Converter
Main Memory W/R Address Generator



C-75 C-76


IC1V-6V,1W-8W MSM5128-12RS
Y MAIN MEMORY
IC1U-8U SN74LS166N
PARALLEL TO SERIAL CONVERTER
IC1T,1S,1R SN74LS377N
SERIAL TO PARALLEL CONVERTER
IC2T,2S,2R SN74LS374N
LATCH
IC3K SN74LS04N
IC3S,3T,3P,3Q,3L,3N MSM5128-12RS
C MAIN MEMORY
IC5S,5R,5Q SN74LS374N
IC5M SN74LS00N
SERIAL TO PARALLEL CONVERTER
IC3K SN74LS04N
IC6Q,6R MBM2149L-55
C DOC MEMORY
IC8T SN74LS32N
IC5T SN74LS377N
LATCH
IC7R,7Q,8R SN74LS163AN
DOC MEMORY ADDRESS GEN
IC6T,6S MBM2149L-55
Y DOC MEMORY
IC5P MB8147E
C DO ADDRESS MEMORY
IC5L SN74LS74AN
DO LATCH
IC2Q SN74LS04N
IC8S SN74LS08N
DOC MEMORY CONT
IC2P SN74LS74AN
DO LATCH
IC5N MB8147E
Y DO ADDRESS MEMORY
IC7T SN74LS374N
Y LATCH
IC7S SN74LS377N
LATCH
IC2Q SN74LS04N
CK-11 BOARD (2/2)
BOARD NO. 1-608-856-11 & UP
BVT-800PS(FOR PAL); # 10001-
BVT-800PS(FOR SECAM); # 70001-

C-77

C-78

DP-24A, IV-4A

DP-24A E

CK-11, 25B

PR-40, 21A

SG, 44A

SG, 22B
PR-40, 23B

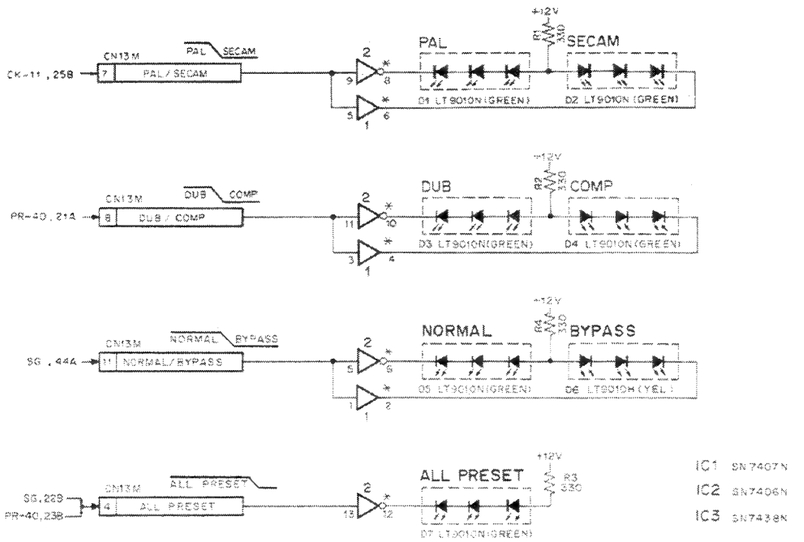
PR-40, 24B

PR-40, 24A

CK-11, 9B

CK-11, 8A

DP-24A BOARD ; DISPLAY

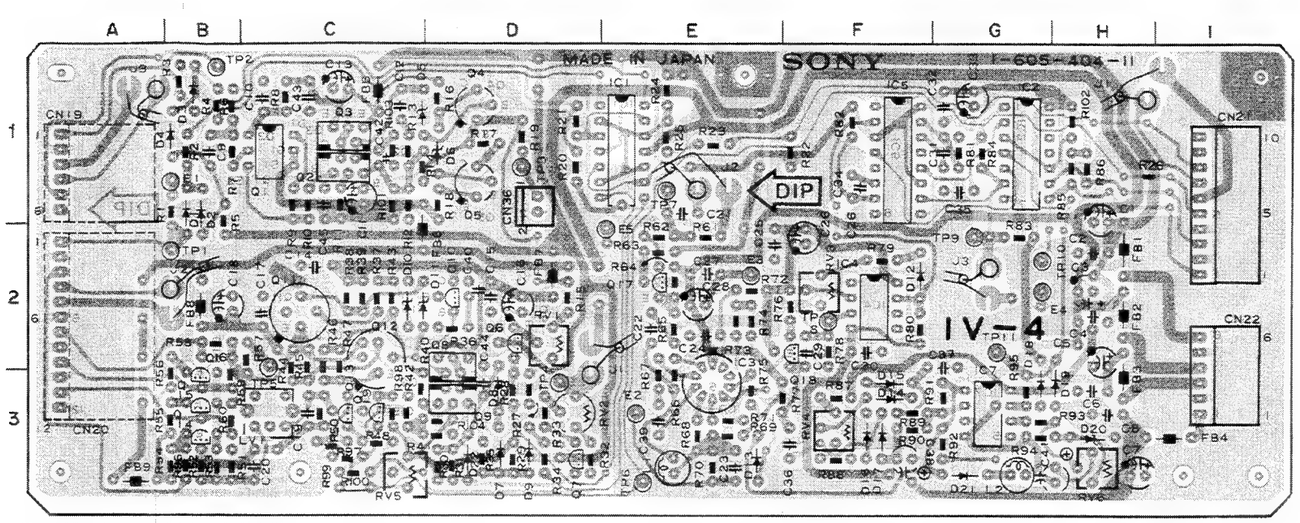


DP-24A BOARD

BOARD NO. 1-605-784-11
BVT-800PS(FOR PAL); #10001-
BVT-800PS(FOR SECAM); #70001-

IV-4A BOARD (1-605-404-11)

Component Side



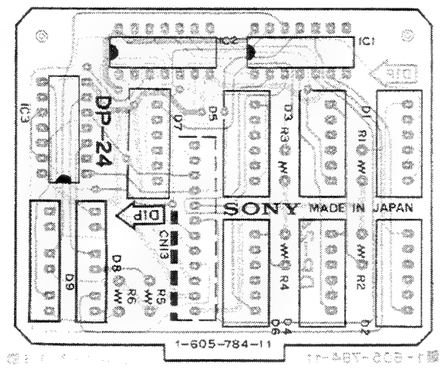
IV-4A (1-605-404-11)

BVT-800PS

CN19	1A	IC1	1E	TP1	2B
CN20	2A	IC2	1G	TP2	1B
CN21	1I	IC3	3E	TP3	1D
CN22	2I	IC4	2F	TP4	3D
CN36	1D	IC5	1F	TP5	2C
		IC7	3G	TP6	3E
				TP7	1E
D1	1B			TP8	2F
D2	1B	Q1	1C	TP9	2G
D3	1B	Q2	1C	TP10	2G
D4	1B	Q3	1C	TP11	2G
D5	1C	Q4	1D		
D6	1D	Q5	1D		
D7	3D	Q6	2D		
D8	3D	Q7	3D		
D9	3D	Q8	2D		
D10	2C	Q9	3D		
D11	2C	Q10	2D		
D12	2F	Q11	2C		
D13	3E	Q12	2C		
D14	3F	Q13	3C		
D15	3F	Q14	3B		
D16	3F	Q15	3B		
D17	3F	Q16	3B		
D18	3G	Q17	2E		
D19	3H	Q18	2F		
D20	3H	Q19	3C		
D21	3G				
D22	3D	RV1	2D		
		RV2	3D		
E1	1B	RV3	2F		
E2	3E	RV4	3F		
E3	2E	RV5	3C		
E4	2G	RV6	3H		
E5	2E				

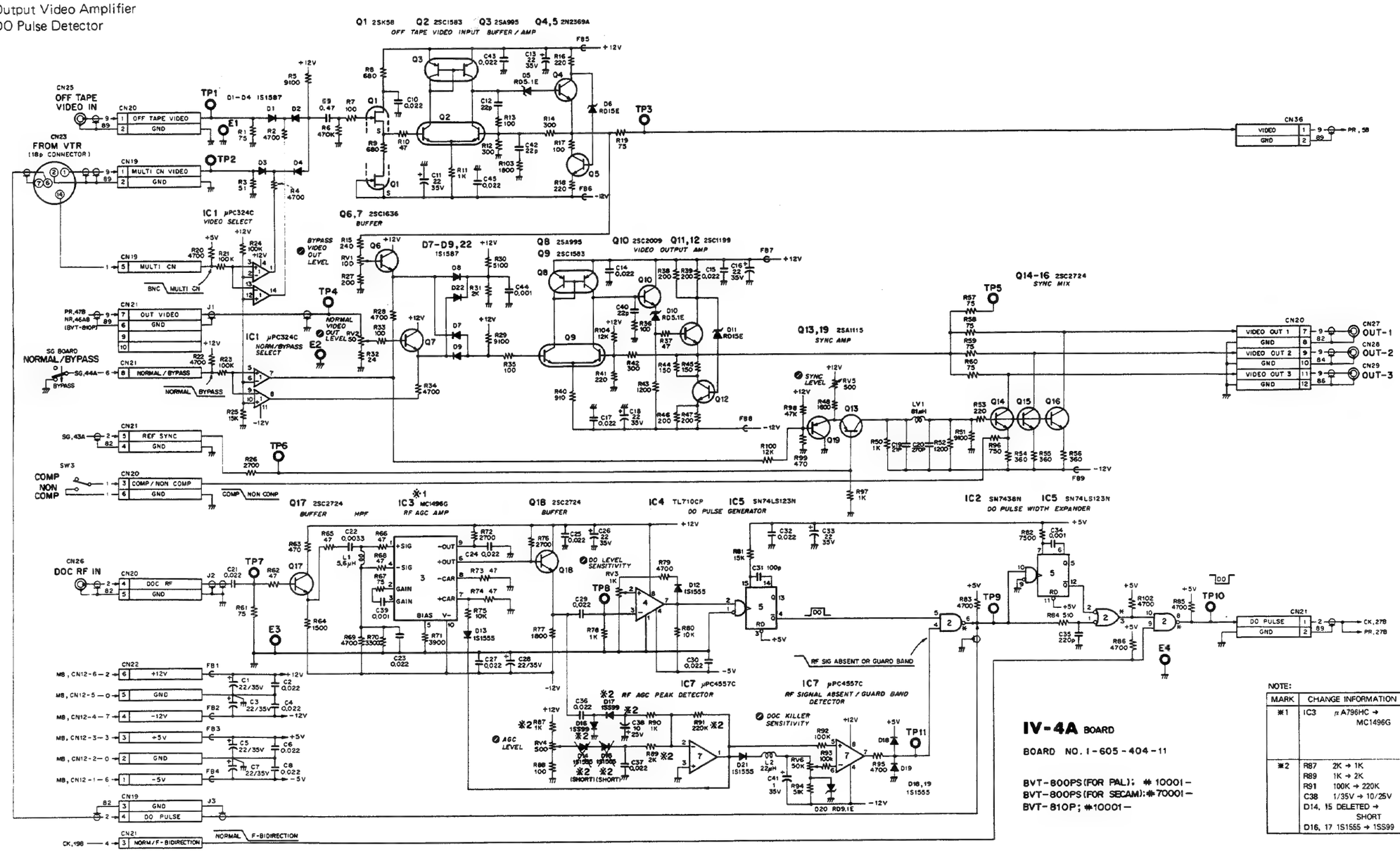
DP-24A BOARD (1-605-784-11)

Component Side



IV-4A BOARD

Input Video Amplifier
Output Video Amplifier
DO Pulse Detector

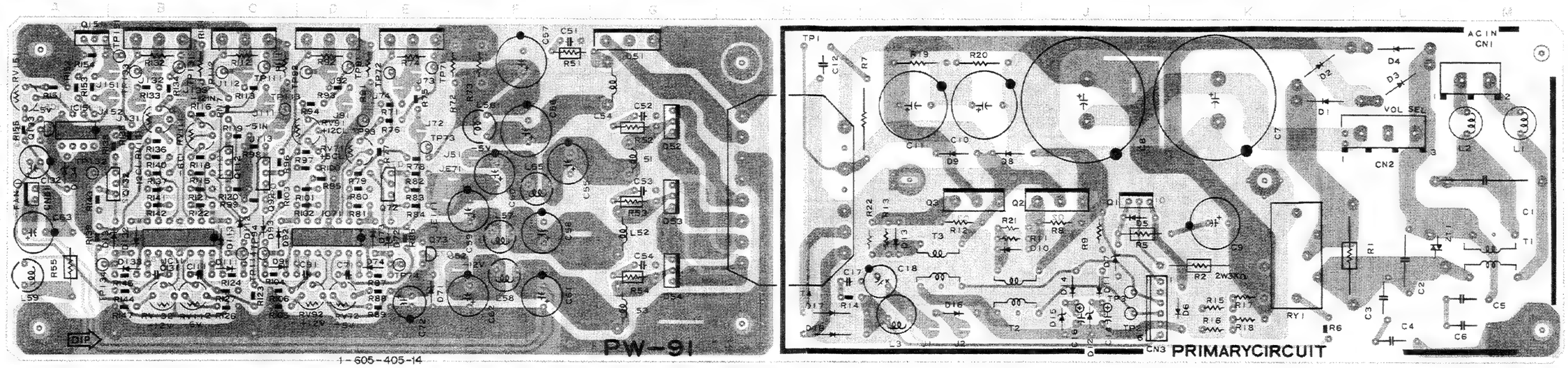


NOTE:

MARK	CHANGE INFORMATION	SERIAL NO.
*1	IC3 μA796HC → MC1496G	BVT-800PS P: 13701 ~ S: 70801 ~ BVT-810P 10801 ~
*2	R87 2K → 1K R89 1K → 2K R91 100K → 220K C38 1/35V → 10/25V D14, 15 DELETED → SHORT D16, 17 1S1555 → 1SS99	BVT-800PS P: 13701 ~ S: 70901 ~ BVT-810P 11001 ~

PW-91A BOARD (1-605-405-14)

Component Side



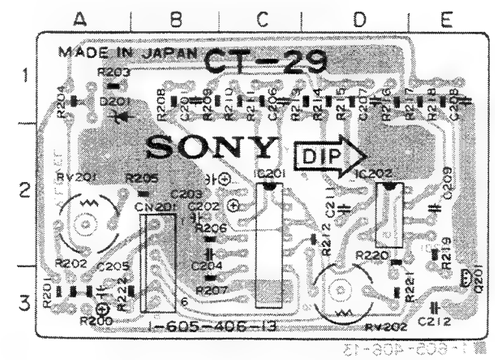
PW-91A (1-605-405-14)

BVT BOOPS

CN1	1M	D132	3B	TP1	1H
CN2	2L	D133	4B	TP2	4J
CN3	4K	D134	3A	TP3	4J
CN51	3A			TP71	1E
		IC71	3D	TP72	1E
D1	2K	IC111	3B	TP73	2E
D2	1K			TP74	4E
D3	2L	Q1	3J	TP91	1D
D4	1L	Q2	3J	TP92	1D
D5	3J	Q3	3I	TP93	2D
D6	4K	Q71	1E	TP94	3C
D7	4J	Q72	3E	TP111	1C
D8	2I	Q73	3E	TP112	1C
D9	2I	Q91	1D	TP113	2C
D10	3I	Q92	3C	TP114	3C
D11	4J	Q111	1C	TP131	1B
D12	4J	Q112	2C	TP132	3A
D13	3I	Q131	1B	TP133	1B
D14	4J	Q132	3B	TP134	4A
D15	4J	Q133	2A	TP151	1B
D16	4I				
D17	4H	RV71	2D	ZT1	3L
D18	4H	RV72	4D		
D51	1G	RV91	2D	WIRING TERMINAL	
D52	2G	RV92	4D	J72	2E
D53	3G	RV111	2B	J73	1E
D54	4G	RV131	2B	J74	2E
D71	4E	RV132	4B	J91	2D
D72	3E	RV151	2A	J92	1D
D73	3E			J111	2C
D74	4E			J112	1C
D91	4C			J131	2B
D92	3C			J132	1B
D93	3C			J151	1B
D111	4C			J152	2B
D112	3C			JE71	3F
D113	3C			JE111	3E
D131	3B				

CT-29 BOARD (1-605-406-13)

Component Side



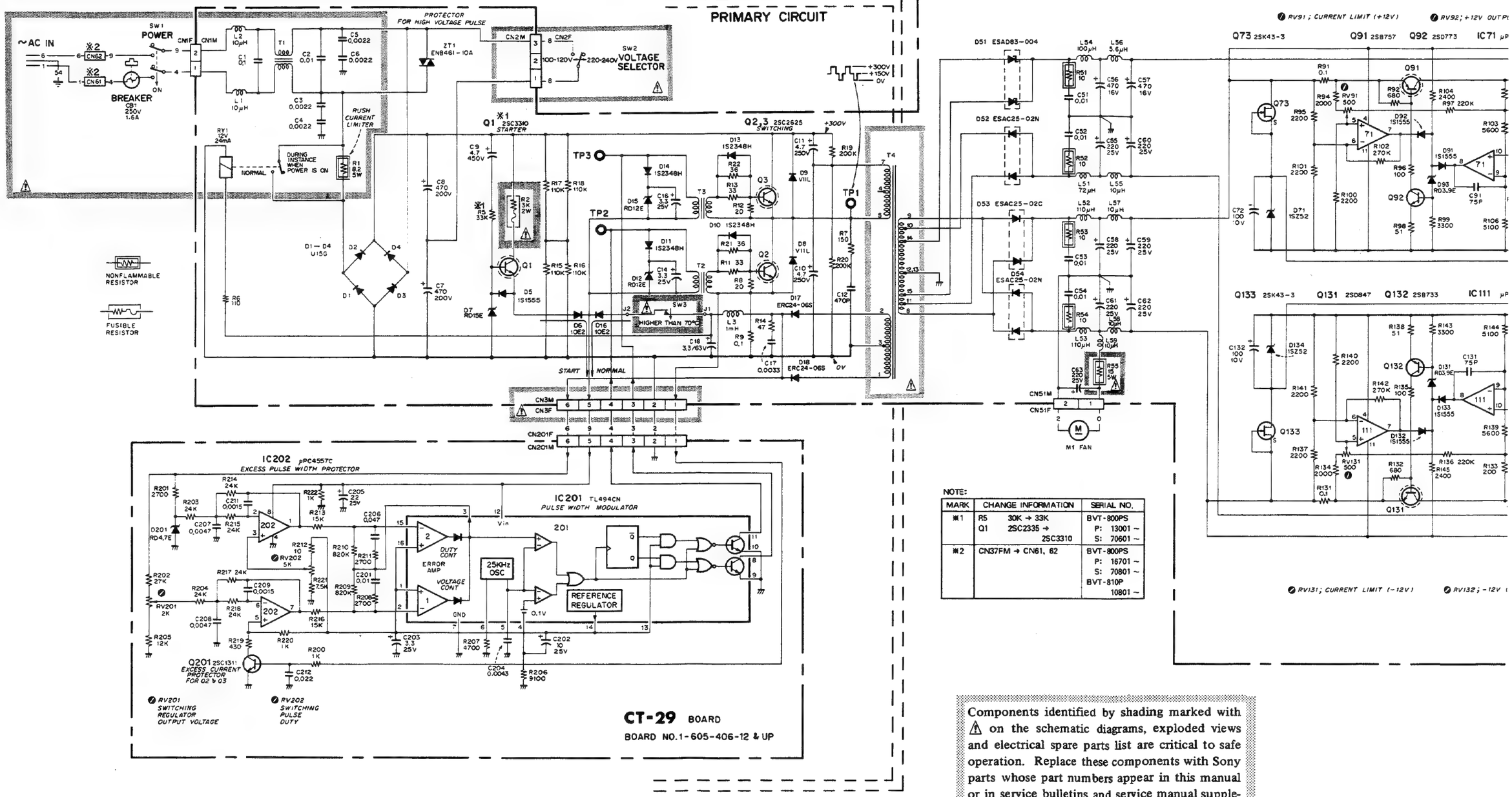
CT-29 (1-605-406-11 to 13)

BVT BOOPS

CN201	2B
D201	1A
IC201	2C
IC202	2D
Q201	3E
RV201	2A
RV202	3D

POWER SUPPLY

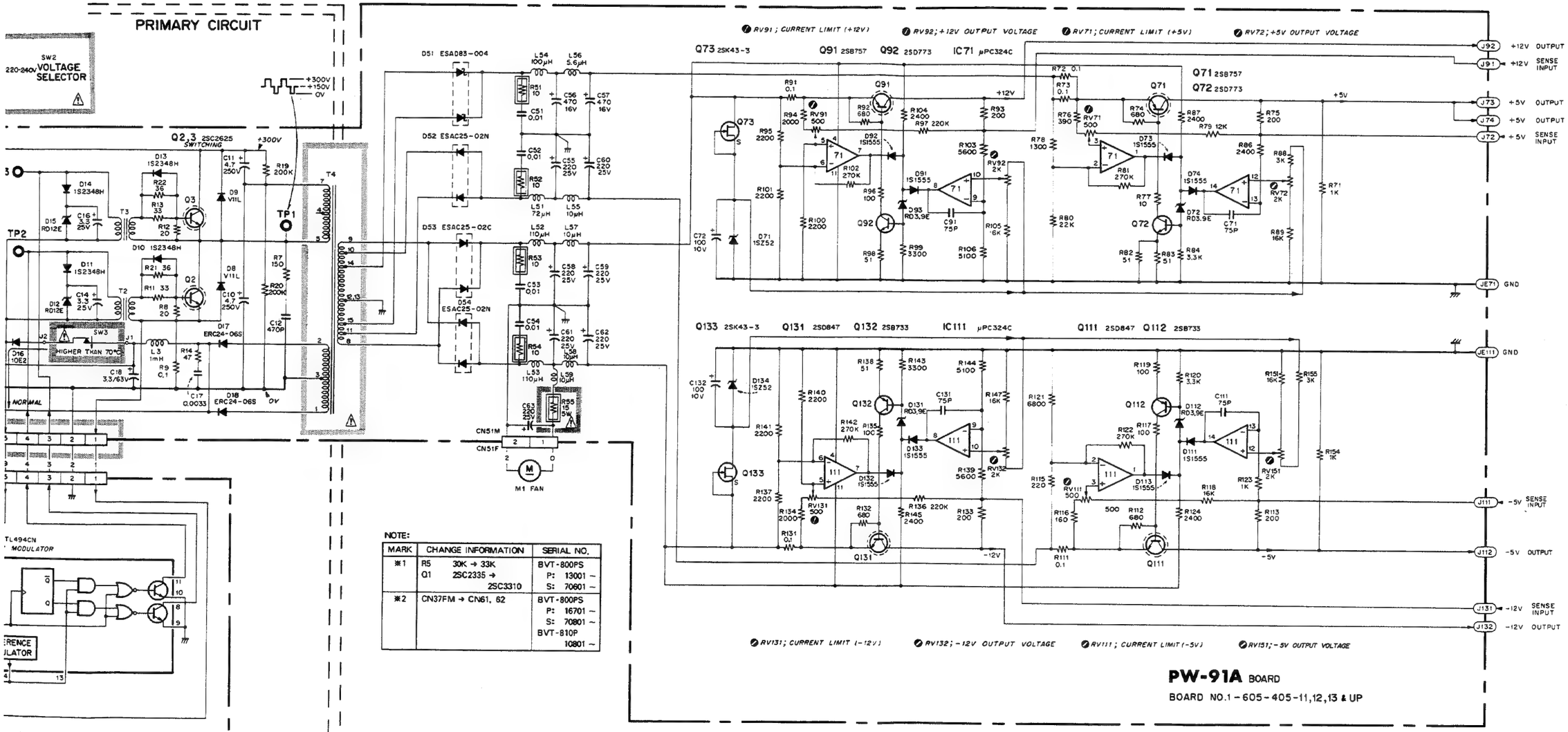
PW-91A BOARD
CT-29 BOARD



NOTE:

MARK	CHANGE INFORMATION	SERIAL NO.
※1	R5 30K → 33K Q1 2SC2335 → 2SC3310	BVT-800PS P: 13001 ~ S: 70601 ~
※2	CN37FM → CN61, 62	BVT-800PS P: 16701 ~ S: 70801 ~ BVT-810P 10801 ~

Components identified by shading marked with ⚠ on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony parts whose part numbers appear in this manual or in service bulletins and service manual supplements published by Sony.



NOTE:

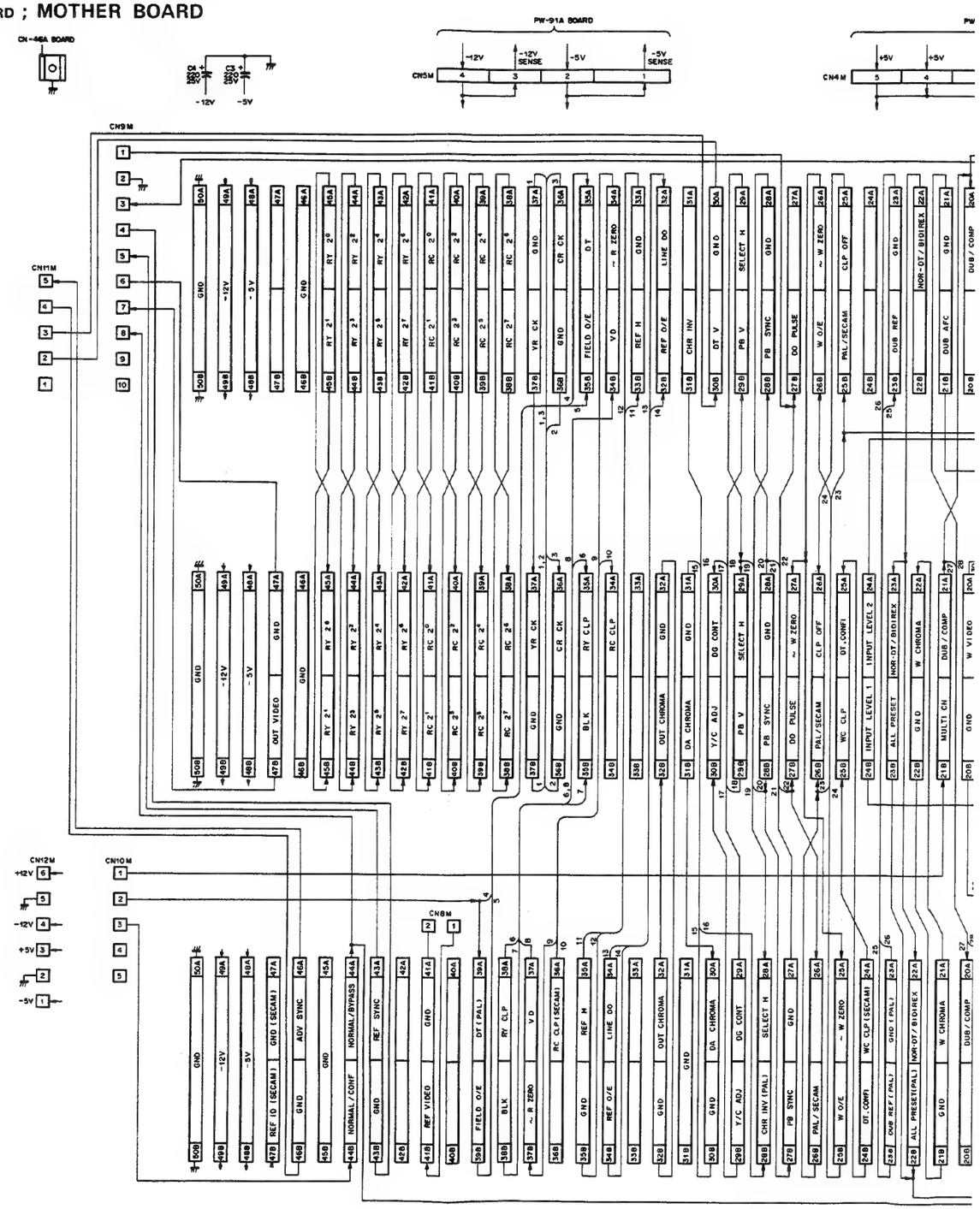
MARK	CHANGE INFORMATION	SERIAL NO.
*1	R5 30K → 33K Q1 2SC2335 → 2SC3310	BVT-800PS P: 13001 ~ S: 70601 ~
*2	CN37FM → CN61, 62	BVT-800PS P: 16701 ~ S: 70801 ~ BVT-810P 10801 ~

Components identified by shading marked with ⚠ on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony parts whose part numbers appear in this manual or in service bulletins and service manual supplements published by Sony.

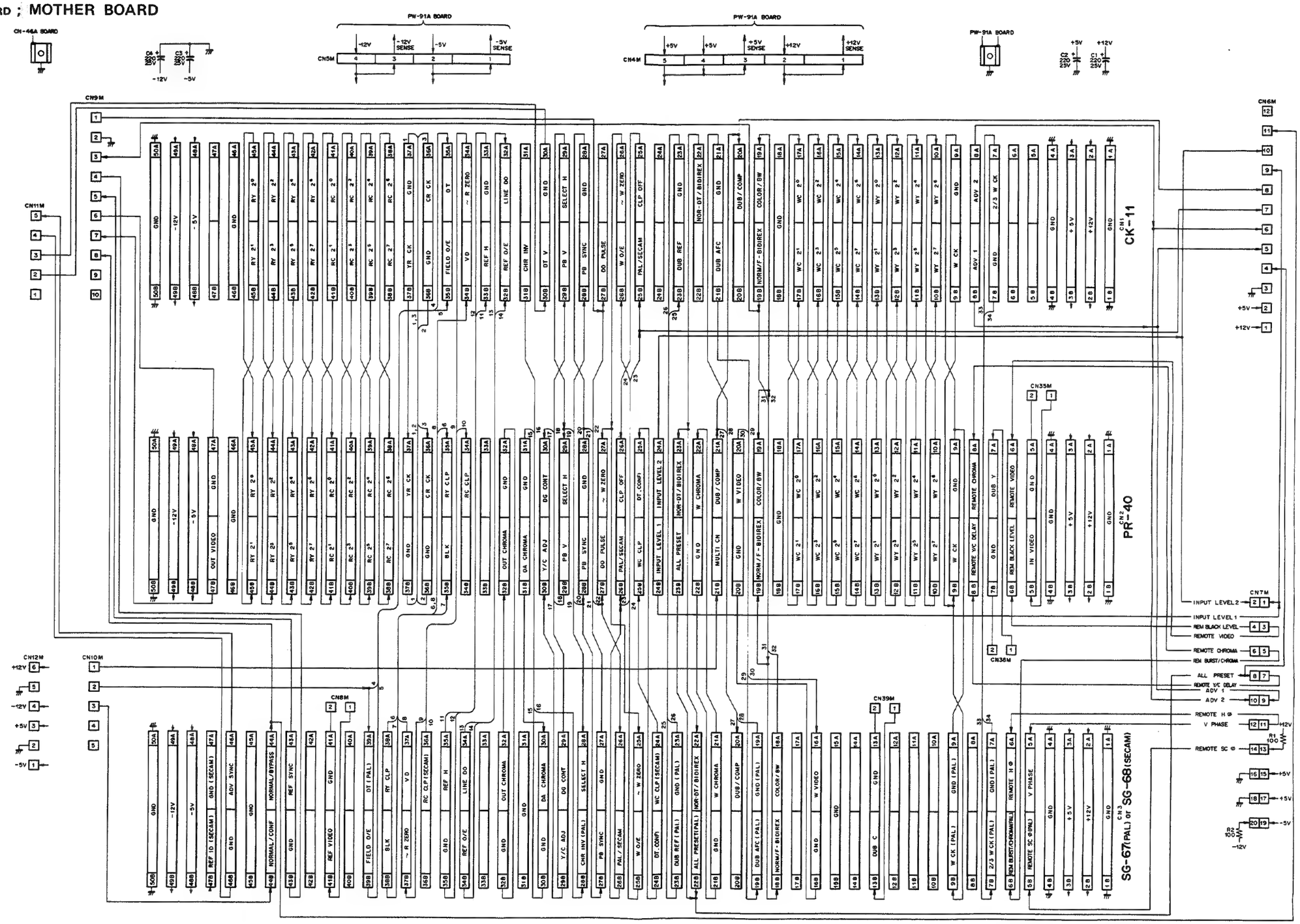
POWER SUPPLY

BVT-800PS (FOR PAL); #10001–
BVT-800PS (FOR SECAM); # 70001–
BVT-810P; #10001–

MB-35 BOARD ; MOTHER BOARD



MB-35 BOARD ; MOTHER BOARD

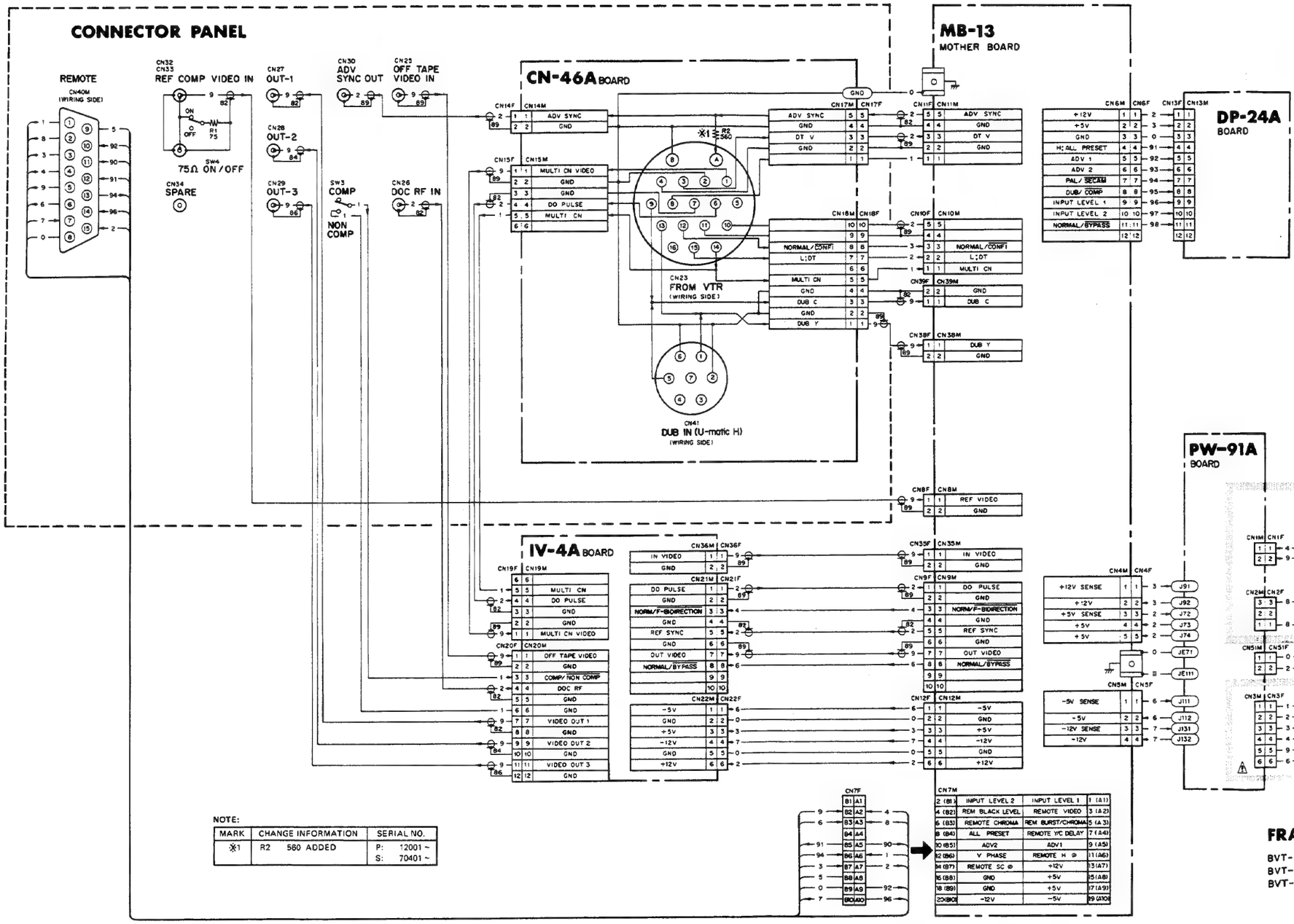


MB-35 BOARD
BOARD NO.1-608-855-11 & UP

BVT-800PS (FOR PAL) ; #10001-
BVT-800PS (FOR SECAM); #70001-

FRAME WIRING

CN-46A BOARD

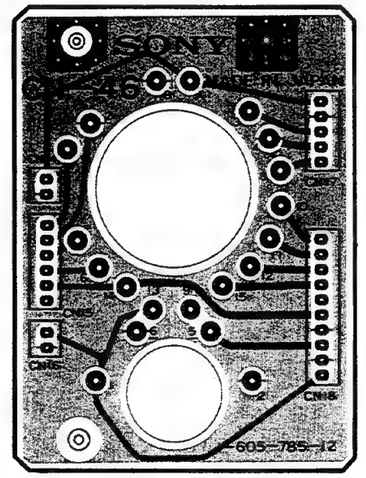


NOTE:

MARK	CHANGE INFORMATION	SERIAL NO.
※1	R2 560 ADDED	P: 12001 ~ S: 70401 ~

CN-46A BOARD (1-605-785-12)

Component Side



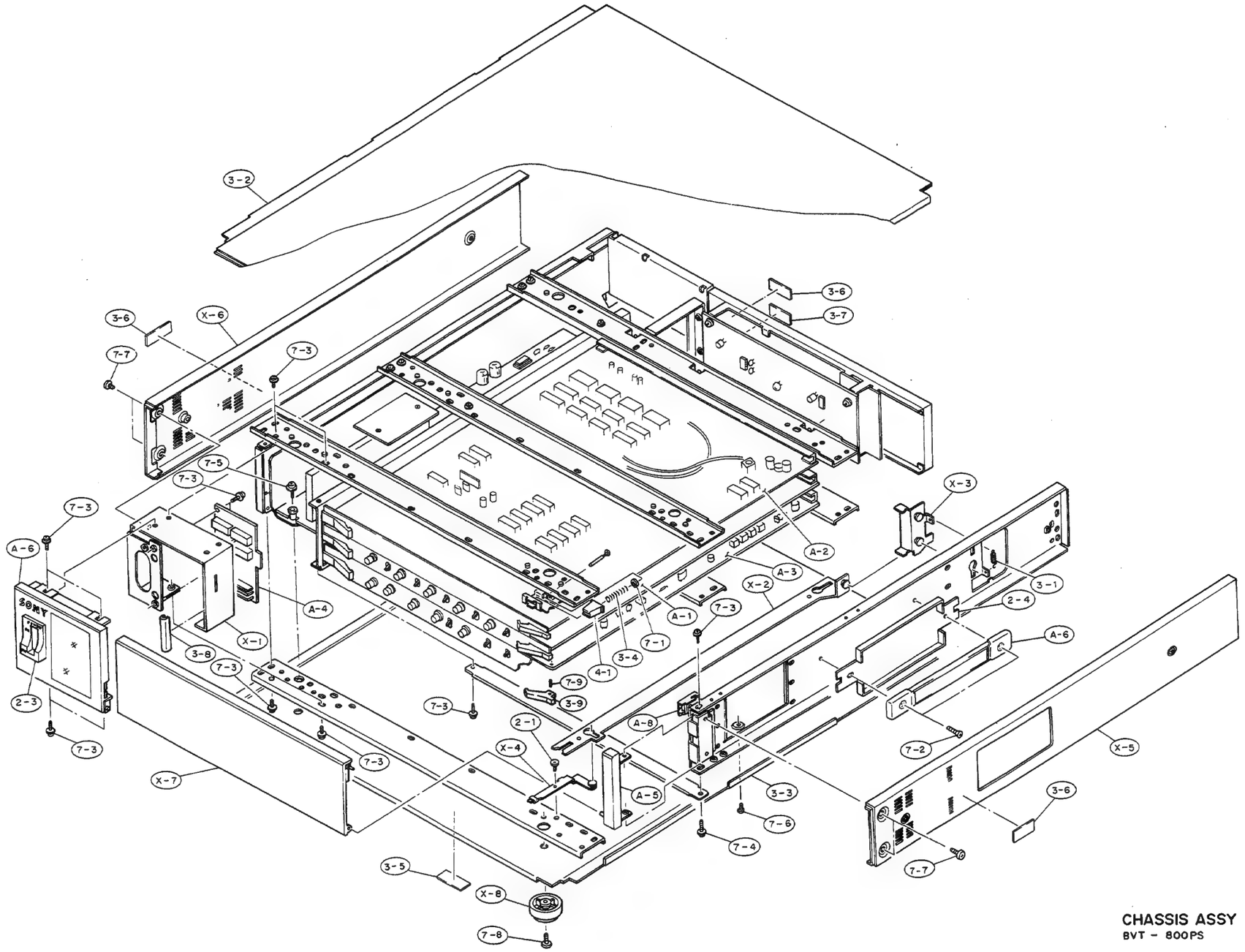
FRAME WIRING

BVT-800PS(FOR PAL); ※10001-
BVT-800PS(FOR SECAM); ※70001-
BVT-810P; ※10001-

SECTION D
REPLACEABLE PARTS & OPTIONAL FIXTURES

CHASSIS ASSY (BVT-800PS)

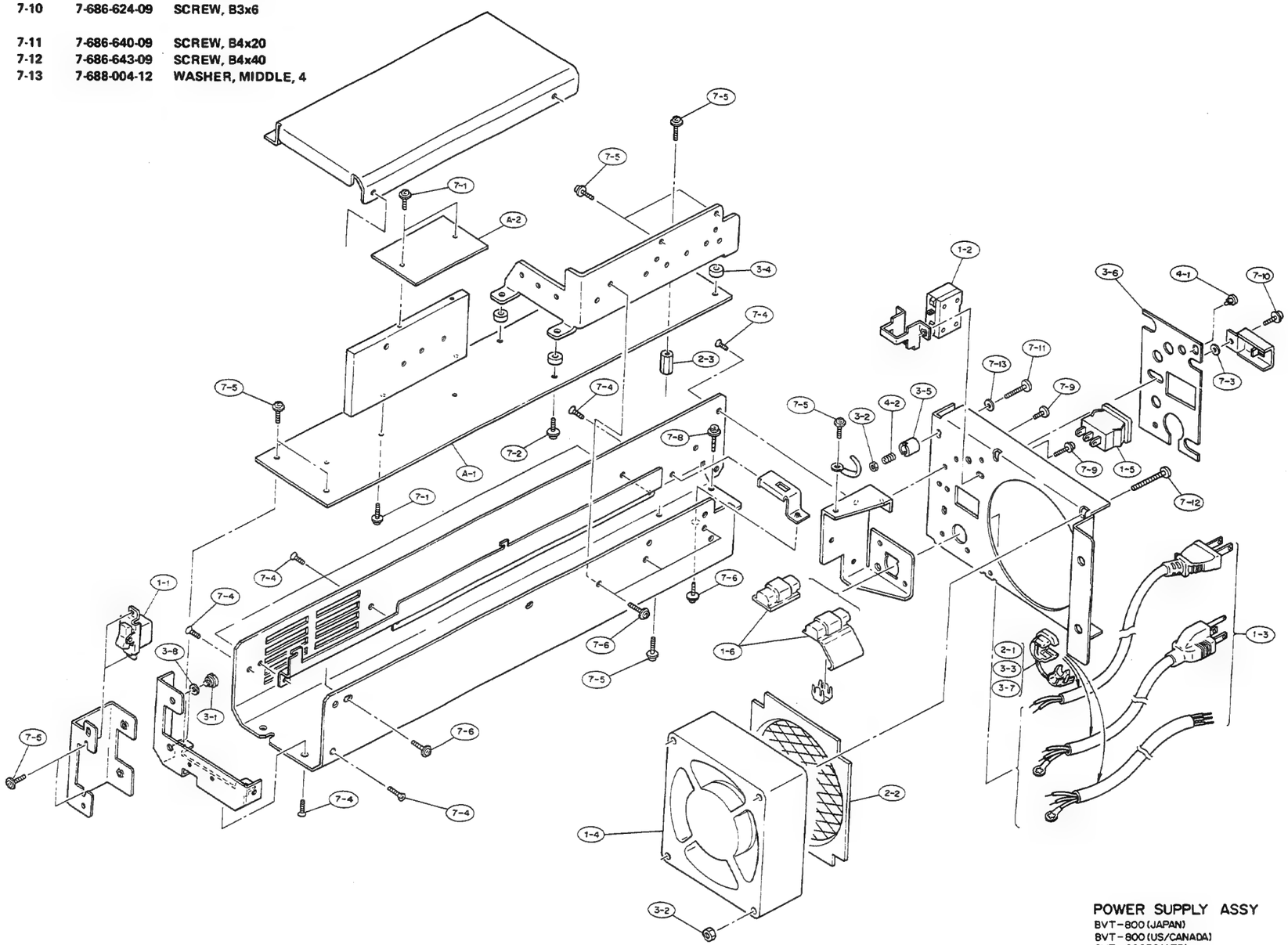
Ref. No.	Part No.	Description
A-1	A-6257-111-A	COMPLETE PCB, PR-40
A-2	A-6259-216-A	COMPLETE PCB, CK-11
A-3	A-6258-217-A	COMPLETE PCB, SG-67 (for PAL)
	A-6258-231-A	COMPLETE PCB, SG-68 (for SECAM)
A-4	A-6265-049-A	COMPLETE PCB, DP-24A
A-5	A-6273-067-A	PROTECTOR ASSY
A-6	A-6273-111-A	PANEL ASSY, INDICATOR
A-7	**X-2275-501-0**	**HANDLE ASSY**
A-8	X-3673-215-3	BRACKET ASSY, LOCK
X-1	X-3673-201-2	BRACKET ASSY, PANEL
X-2	X-3673-202-0	PLATE ASSY, STOPPER
X-3	X-3673-203-0	STOPPER ASSY
X-4	X-3673-207-0	LEVEL ASSY, STOPPER
X-5	X-3673-213-0	PANEL ASSY, RIGHT
X-6	X-3673-214-0	PANEL ASSY, LEFT
X-7	X-3673-217-0	PANEL ASSY, FRONT
X-8	**X-4310-310-0**	**FOOT ASSY**
2-1	**2-236-956-01**	**SCREW, STEP**
2-3	**2-251-642-00**	**GUARD, POWER SWITCH**
2-4	2-252-630-02	PLATE, ORNAMENTAL, HANDLE
3-1	3-555-121-00	SPRING, TENSION
3-2	3-673-268-00	LID, UPPER
3-3	3-673-269-00	LID, BOTTOM
3-4	3-673-281-00	SPRING, COMPRESSION
3-5	3-703-043-21	LABEL, CAUTION, MAIN
3-6	3-703-082-21	LABEL, CAUTION
3-7	3-659-964-01	LABEL, CAUTION, GROUND
3-8	3-678-515-02	EDGING, RUBBER
3-9	3-673-249-00	LEVER, PC BOARD
4-1	**4-335-962-00**	**BUTTON, PUSH**
7-1	**7-624-104-04**	**STOP RING, 2.0**
7-2	**7-682-264-09**	**SCREW, +K 4X14**
7-3	**7-686-527-01**	**SCREW, PSW 3X6**
7-4	**7-686-528-01**	**SCREW, PSW 3X8**
7-5	**7-686-530-01**	**SCREW, PSW 3X12**
7-6	**7-686-622-09**	**SCREW, B 3X4**
7-7	**7-686-634-09**	**SCREW, B 4X6**
7-8	**7-686-637-09**	**SCREW, B 4X12**
7-9	7-626-320-11	PIN, SPRING 3X8



CHASSIS ASSY
BVT - 800PS

POWER SUPPLY ASSY (BVT-800/PS)

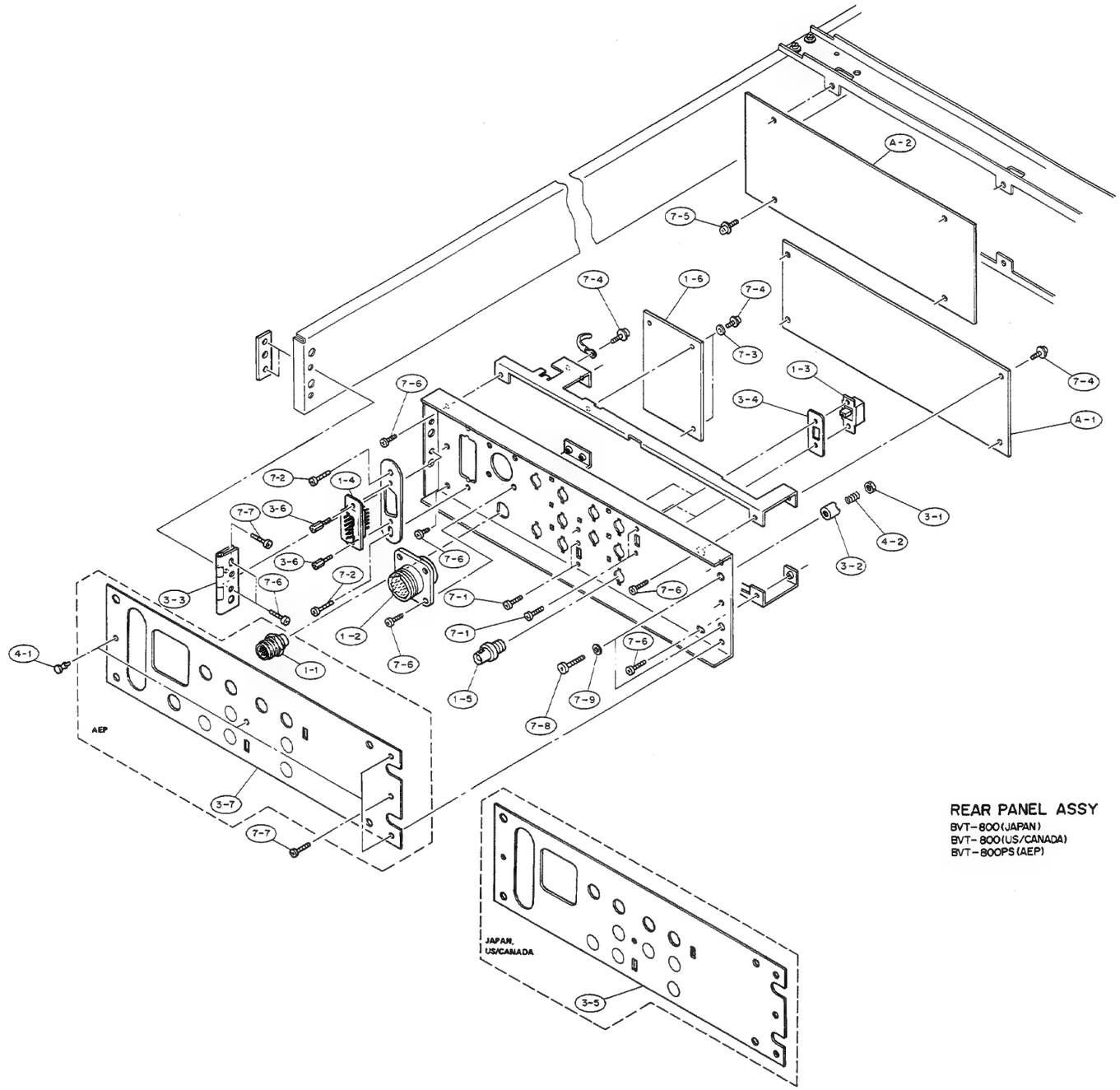
Ref. No.	Part No.	Description
A-1	A-6263-036-A	COMPLETE PCB, PW-91 (for Japan, US/Canada)
	A-6263-042-A	COMPLETE PCB, PW-91A (for AEP)
A-2	A-6263-037-A	COMPLETE PCB, CT-29
⚠ 1-1	1-570-117-31	**SWITCH, SEESAW**
⚠ 1-2	1-532-534-31	**BREAKER, CIRCUIT, AC250V, 1.6A**
⚠ 1-3	1-534-517-00	**CORD, POWER (for US/Canada)**
	1-534-535-14	**CORD, POWER (for Japan)**
	1-556-559-31	**CORD, POWER (for AEP)**
1-4	1-541-170-00	**MOTOR, FAN, DC**
⚠ 1-5	1-554-011-00	**SWITCH, ROCKER**
⚠ 1-6	1-563-112-11	CONNECTOR, DIVERGE
⚠ 2-1	2-234-904-00	**STOPPER, CORD (for Japan)**
2-2	2-252-609-00	COVER, FAN
2-3	2-280-622-11	SUPPORT, HEXAGON
3-1	3-630-415-00	**SCREW, STEP**
3-2	3-680-316-00	NUT, NYLON, 4
⚠ 3-3	3-649-728-00	**STOPPER, CORD (for US/Canada)**
3-4	3-650-188-00	**COLLAR, 6mm DIA**
3-5	3-651-849-00	SPACER, PANEL
3-6	3-673-211-00	PANEL, RIGHT CONNECTOR
⚠ 3-7	3-673-298-00	**STOPPER, CORD (for AEP)**
3-8	3-701-443-21	**WASHER, NYLON, 5**
4-1	4-812-134-11	**RIVET, NYLON, 3.5**
4-2	3-303-890-01	SPRING, COMPRESSION
7-1	7-621-981-25	**SCREW, PSW 2.6x8**
7-2	7-621-981-35	**SCREW, PSW 2.6x10**
7-3	7-623-923-11	**WASHER, NYLON, 2.6**
7-4	7-682-247-09	**SCREW, + K 3x6**
7-5	7-686-527-01	**SCREW, PSW 3x6**
7-6	7-686-528-01	**SCREW, PSW 3x8**
7-8	7-686-548-01	**SCREW, PSW 4x8 (for US/Canada, AEP)**
7-9	7-686-623-09	**SCREW, B3x5**
7-10	7-686-624-09	**SCREW, B3x6**
7-11	7-686-640-09	**SCREW, B4x20**
7-12	7-686-643-09	**SCREW, B4x40**
7-13	7-688-004-12	**WASHER, MIDDLE, 4**



POWER SUPPLY ASSY
BVT-800 (JAPAN)
BVT-800 (US/CANADA)
BVT-800PS (AEP)

REAR PANEL ASSY (BVT-800/PS)

Ref. No.	Part No.	Description
A-1	A-6257-101-A	COMPLETE PCB, IV-4 (for Japan, US/Canada)
	A-6257-112-A	COMPLETE PCB, IV-4A (for AEP)
A-2	A-6265-046-A	COMPLETE PCB, MB-16 (for Japan, US/Canada)
	A-6265-050-A	COMPLETE PCB, MB-35 (for AEP)
1-1	**1-508-945-00**	**RECEPTACLE, 7P, MALE**
1-2	**1-509-470-00**	**RECEPTACLE, 18P, MALE**
1-3	**1-552-822-00**	**SWITCH, SLIDE**
1-4	**1-560-495-00**	**RECEPTACLE, D-SUB 15P, MALE**
1-5	**1-561-781-21**	**RECEPTACLE, BNC**
1-6	1-605-785-00	PC BOARD, CN-46
3-1	3-680-316-00	NUT, NYLON, 4
3-2	3-651-849-00	SPACER, PANEL
3-3	3-658-816-00	HINGE, FRONT
3-4	3-673-205-00	SPACER, SWITCH
3-5	3-673-261-00	PANEL, CONNECTOR (for Japan, US/Canada)
3-6	3-673-910-00	SCREW, CONNECTOR
3-7	3-678-501-00	PANEL, CONNECTOR (for AEP)
4-1	**4-812-134-11**	**RIVET, NYLON, 3.5**
4-2	3-303-890-01	SPRING, COMPRESSION
7-1	**7-621-555-30**	**SCREW, + K 2x5**
7-2	**7-621-912-30**	**SCREW, B2.6x6**
7-3	**7-623-924-11**	**WASHER, NYLON, 3**
7-4	**7-686-527-01**	**SCREW, PSW 3x6**
7-5	**7-686-528-01**	**SCREW, PSW 3x8**
7-6	**7-686-623-09**	**SCREW, B3x5**
7-7	**7-686-624-09**	**SCREW, B3x6**
7-8	**7-686-640-09**	**SCREW, B4x20**
7-9	**7-688-004-12**	**WASHER, MIDDLE, 4**



REAR PANEL ASSY
BVT-800(JAPAN)
BVT-800(US/CANADA)
BVT-800PS(AEP)

Ref. No. or Q'ty	Part No.	Description

SG-67 BOARD (BVT-800PS/BKT-801) FOR PAL

1 PC	A-6259-217-A	COMPLETE PCB, SG-67

If the SG-67 complete circuit board is not available, order as a BKT-801.

(This assembly includes the following parts.)

C59	1-102-114-00	CAP, CERAMIC 470PF 10% 50V
C39	1-107-076-00	CAP, MICA 43PF 5% 50V
C11, 207, 208, 258, 259	1-107-081-00	CAP, MICA 68PF 5% 50V
C245	1-107-083-00	CAP, MICA 82PF 5% 50V
C67, 279, 281, 282, 284, 285, 287, 554, 567, 568	1-107-085-00	CAP, MICA 100PF 5% 50V
C28	1-107-157-00	CAP, MICA 27PF 5% 500V
C256, 512, 513, 537, 538	1-107-159-00	CAP, MICA 33PF 5% 500V
C88	1-107-202-00	CAP, MICA 10PF 5% 500V
C10, 40	1-107-206-00	CAP, MICA 15PF 5% 500V
C231, 235, 254, 273, 524, 548	1-107-210-00	CAP, MICA 22PF 5% 500V
C33, 520, 544	1-109-539-00	CAP, MICA 150PF 5% 100V
C244	1-109-540-00	CAP, MICA 180PF 5% 100V
C505, 530	1-109-547-00	CAP, MICA 330PF 5% 100V
C556	1-109-549-00	CAP, MICA 390PF 5% 100V
C260, 261	1-109-553-00	CAP MICA 470PF 5% 100V
C68	1-109-555-00	CAP, MICA 560PF 5% 100V
C222	1-109-747-00	CAP, MICA 23PF +/–0.5PF 100V
C228	1-109-753-00	CAP, MICA 57PF 1% 100V
C226	1-109-756-00	CAP, MICA 76PF 1% 100V
C224	1-109-758-00	CAP, MICA 83PF 1% 100V
C507, 532	1-109-759-00	CAP, MICA 91PF 1% 100V
C221	1-109-768-00	CAP, MICA 139PF 1% 100V
C223	1-109-770-00	CAP, MICA 185PF 1% 100V
C227	1-109-787-00	CAP, MICA 66PF 1% 100V
C225	1-109-793-00	CAP, MICA 256PF 1% 100V
C229	1-109-796-00	CAP, MICA 823PF 1% 100V
C46	1-123-332-00	CAP, ELECT 47 25V

Ref. No. or Q'ty	Part No.	Description

(SG-67 BOARD, BVT-800PS/BKT-801 FOR PAL)

C12, 15, 22, 24, 42, 51, 62, 71, 78, 80, 81, 209, 257, 262	1-123-342-00	CAP, ELECT 22 35V
C2, 4, 6, 8	1-123-344-00	CAP, ELECT 47 35V
C27, 64, 69, 74, 82, 246, 280, 286, 290, 291	1-130-471-00	CAP, MYLAR 0.001 5% 50V
C49	1-130-473-00	CAP, MYLAR 0.0015 5% 50V
C26, 210, 278, 283, 515	1-130-475-00	CAP, MYLAR 0.0022 5% 50V
C18, 20, 200	1-130-483-00	CAP, MYLAR 0.01 5% 50V
C14, 17	1-130-487-00	CAP, MYLAR 0.022 5% 50V
C72	1-130-489-00	CAP, MYLAR 0.033 5% 50V
C34, 263	1-130-491-00	CAP, MYLAR 0.047 5% 50V
C43, 45, 54, 247	1-130-495-00	CAP, MYLAR 0.1 5% 50V
C240, 243, 521, 522, 545, 546	1-131-347-00	CAP, TANT 1 10% 35V
C32, 294	1-131-355-00	CAP, TANT 2.2 10% 25V
C47, 55	1-131-359-00	CAP, TANT 10 10% 25V
C201, 202, 214, 216, 218, 230, 242, 264, 265, 502, 527, 552, 558, 560, 563	1-131-373-00	CAP, TANT 22 10% 16V
C56, 238, 250, 270, 274	1-161-039-00	CAP, CERAMIC 0.001 10% 50V
C1, 3, 5, 7, 13, 16, 19, 21, 23, 25, 29, 30, 31, 35, 36, 37, 38, 41, 44, 48, 50, 52, 53, 57, 58, 60, 61, 63, 65, 66, 70, 73, 75, 76, 77, 79, 83, 84, 85, 86, 87, 89, 203, 204, 205, 206, 211, 212, 213, 215, 217, 219, 220, 232, 233, 234, 236, 237, 239, 241, 248, 249, 251, 252, 253, 255, 266, 267, 268, 269, 271, 272, 275, 276, 277, 288, 289, 292, 293, 295, 296, 297, 300, 301, 302, 500, 501, 503, 504, 506, 508, 509, 510, 511, 514, 516, 517, 518, 519, 523, 525, 526, 528, 529, 531, 533, 534, 535, 536, 539, 540, 541 542, 543, 547, 549, 550, 551, 553, 555, 557, 559 561, 562, 564, 565, 566, 569, 570, 571, 572	1-161-055-00	CAP, CERAMIC 0.022 10% 50
C9	1-161-897-31	CAP, CERAMIC 0.33 50V
R265	1-214-084-00	RES, METAL 10 1% 1/4W

Ref. No. or Q'ty	Part No.	Description
(SG-67 BOARD, BVT-800PS/BKT-801 FOR PAL)		
R101, 368, 369	1-214-096-00	RES, METAL 33 1% 1/4W
R2, 4, 5, 7, 10, 209, 213, 216, 220, 223, 245, 251, 255, 258, 260, 262, 501, 572, 573, 598, 605, 606, 609	1-214-100-00	RES, METAL 47 1% 1/4W
R282, 313, 334, 361, 512, 545	1-214-101-00	RES, METAL 51 1% 1/4W
R102, 201, 204, 247, 269, 270, 612, 613	1-214-105-00	RES, METAL 75 1% 1/4W
R12, 16, 67, 240, 243, 267, 281, 283, 287, 306, 312, 314, 332, 333, 335, 336, 337, 338, 356, 360, 362, 398, 510, 511, 514, 517, 520, 543, 544, 547, 550, 553, 611	1-214-108-00	RES, METAL 100 1% 1/4W
R25	1-214-111-00	RES, METAL 130 1% 1/4W
R205, 322, 323, 577, 578, 619, 620	1-214-112-00	RES, METAL 150 1% 1/4W
R597	1-214-115-00	RES, METAL 200 1% 1/4W
R66, 233, 244, 327, 392, 393, 503	1-214-116-00	RES, METAL 220 1% 1/4W
R248	1-214-118-00	RES, METAL 270 1% 1/4W
R229, 230, 253, 254, 266, 509, 513, 542, 546, 567, 568, 575, 592, 593, 600, 601	1-214-119-00	RES, METAL 300 1% 1/4W
R236, 370, 505, 538	1-214-120-00	RES, METAL 330 1% 1/4W
R261	1-214-121-00	RES, METAL 360 1% 1/4W
R587	1-214-123-00	RES, METAL 430 1% 1/4W
R43, 45, 52, 58, 88, 103, 263, 386, 387	1-214-124-00	RES, METAL 470 1% 1/4W

Ref. No. or Q'ty	Part No.	Description
(SG-67 BOARD, BVT-800PS/BKT-801 FOR PAL)		
R211, 212, 215, 218, 219, 225, 286, 288, 289, 304, 305, 307, 326, 328, 354, 355, 357, 359, 367, 500, 504, 507, 515, 537, 540, 548	1-214-125-00	RES, METAL 510 1% 1/4W
R259, 264, 279, 280, 290, 291, 309, 310, 363, 364, 371, 535, 536, 624	1-214-127-00	RES, METAL 620 1% 1/4W
R100, 278, 284, 591	1-214-129-00	RES, METAL 750 1% 1/4W
R519, 552	1-214-131-00	RES, METAL 910 1% 1/4W
R22, 23, 24, 32, 33, 46, 57, 73, 77, 97, 208, 235, 238, 250, 256, 257, 345, 346, 516, 521, 549, 554, 588, 589, 595, 608	1-214-132-00	RES, METAL 1K 1% 1/4W
R89, 297, 557	1-214-134-00	RES, METAL 1.2K 1% 1/4W
R93, 99, 224, 246, 252, 268, 271, 319, 350, 502, 582, 610, 617	1-214-136-00	RES, METAL 1.5K 1% 1/4W
R3, 8, 11	1-214-138-00	RES, METAL 1.8K 1% 1/4W
R6, 27, 28	1-214-139-00	RES, METAL 2.0K 1% 1/4W
R35, 90, 92, 210, 214, 217, 221, 227, 228, 234, 275, 276, 277, 303, 311, 315, 317, 318, 320, 330, 331, 343, 353, 365, 366, 527, 533, 534, 559, 565, 566, 583, 594, 599, 616	1-214-140-00	RES, METAL 2.2K 1% 1/4W
R9	1-214-141-00	RES, METAL 2.4K 1% 1/4W
R26, 37, 39, 524, 528, 529, 560, 561	1-214-142-00	RES, METAL 2.7K 1% 1/4W
R20, 21, 29, 51, 54, 60, 62, 64, 68, 69, 72, 86, 104, 241, 294, 302, 321, 349, 352, 372, 373, 382, 388, 390, 400, 402, 508, 518, 526, 541, 551, 581, 584, 586, 596, 618	1-214-144-00	RES, METAL 3.3K 1% 1/4W
R98, 242	1-214-145-00	RES, METAL 3.6K 1% 1/4W
R325, 580, 622	1-214-146-00	RES, METAL 3.9K 1% 1/4W
R525, 558	1-214-147-00	RES, METAL 4.3K 1% 1/4W

Ref. No. or Q'ty	Part No.	Description
(SG-67 BOARD, BVT-800PS/BKT-801 FOR PAL)		
R202, 203, 237, 285, 292, 299, 300, 308, 329, 339, 341, 358, 394, 395, 397, 523, 556, 570, 571, 574, 603, 604	1-214-148-00	RES, METAL 4.7K 1% 1/4W
R44, 48, 49, 65, 84, 623	1-214-149-00	RES, METAL 5.1K 1% 1/4W
R61	1-214-150-00	RES, METAL 5.6K 1% 1/4W
R590, 607	1-214-151-00	RES, METAL 6.2K 1% 1/4W
R78, 226, 239, 249, 295	1-214-152-00	RES, METAL 6.8K 1% 1/4W
R42, 47	1-214-153-00	RES, METAL 7.5K 1% 1/4W
R207, 324, 380, 579, 621	1-214-154-00	RES, METAL 8.2K 1% 1/4W
R232	1-214-155-00	RES, METAL 9.1K 1% 1/4W
R18, 76, 222, 231, 272, 273, 274, 298, 301, 340, 342, 351, 376, 381, 383, 384, 385, 389, 391, 522, 555	1-214-156-00	RES, METAL 10K 1% 1/4W
R34, 50, 56, 59, 293	1-214-160-00	RES, METAL 15K 1% 1/4W
R375, 614, 615	1-214-162-00	RES, METAL 18K 1% 1/4W
R40, 74	1-214-163-00	RES, METAL 20K 1% 1/4W
R31, 296, 344, 374	1-214-164-00	RES, METAL 22K 1% 1/4W
R53, 55, 85, 585	1-214-165-00	RES, METAL 24K 1% 1/4W
R79	1-214-166-00	RES, METAL 27K 1% 1/4W
R63, 83, 347, 379, 531, 563	1-214-168-00	RES, METAL 33K 1% 1/4W
R378	1-214-169-00	RES, METAL 36K 1% 1/4W
R91	1-214-170-00	RES, METAL 39K 1% 1/4W
R94, 200, 206, 377, 396, 530, 562	1-214-172-00	RES, METAL 47K 1% 1/4W
R30, 38	1-214-173-00	RES, METAL 51K 1% 1/4W
R87	1-214-175-00	RES, METAL 62K 1% 1/4W
R17, 36, 41, 75, 80, 82, 348, 399, 401, 506, 532, 539, 564, 602	1-214-180-00	RES, METAL 100K 1% 1/4W

Ref. No. or Q'ty	Part No.	Description
(SG-67 BOARD, BVT-800PS/BKT-801 FOR PAL)		
RV507	1-228-288-00	RES, VAR, METAL 100
RV200	1-228-289-00	RES, VAR, METAL 200
RV203	1-228-291-00	RES, VAR, METAL 1K
RV210, 501, 503	1-228-292-00	RES, VAR, METAL 2K
RV8, 202, 207, 504	1-228-293-00	RES, VAR, METAL 5K
RV9, 201, 506, 508	1-228-294-00	RES, VAR, METAL 10K
RV6, 7, 206, 208, 209, 500, 502	1-228-295-00	RES, VAR, METAL 20K
RV204, 205	1-228-296-00	RES, VAR, METAL 50K
RV1, 2, 3, 4, 5	1-230-740-21	RES, VAR, CARBON 5K
RB1, 2	1-231-450-00	RES BLOCK, 3.3KX8
RB200, 201, 202, 500	1-231-504-00	RES BLOCK, 620X4
BP502	1-235-168-00	FILTER, BAND PASS, 4.43MHz
BP200	1-235-199-00	FILTER, BAND PASS, 4.43MHz
BP500	1-235-200-00	FILTER, BAND PASS, 4.43MHz
BP501	1-235-201-00	FILTER, BAND PASS, 4.43MHz
BP202	1-235-202-00	FILTER, BAND PASS, 8.91MHz
LP201	1-235-203-00	FILTER, LOW PASS
LP200	1-235-204-00	FILTER, LOW PASS
LP202	1-235-205-00	FILTER, LOW PASS
CP200, 201, 202	1-235-206-00	CR BLOCK
BP201	1-235-207-00	FILTER, BAND PASS, 4.43MHz
R81	1-247-895-00	RES, CARBON 470K 5% 1/6W
R1, 13, 14, 15, 19, 70, 71, 95, 96	1-247-903-00	RES, CARBON 1.0M 5% 1/6W
LV200	1-407-569-00	COIL, VAR, 10
L6	1-407-923-00	INDUCTOR, MICRO 47 10%
L215	1-408-401-00	INDUCTOR, MICRO 2.2 5%
L212, 213, 214, 500, 501, 503, 504	1-408-409-00	INDUCTOR, MICRO 10 5%
L216	1-408-416-00	INDUCTOR, MICRO 39 5%
L5, 201, 206, 506	1-408-425-00	INDUCTOR, MICRO 220 5%

Ref. No. or Q'ty	Part No.	Description
(SG-67 BOARD, BVT-800PS/BKT-801 FOR PAL)		
L202, 203, 217, 218	1-408-427-00	INDUCTOR, MICRO 330 5%
L200	1-408-628-00	INDUCTOR 2.72
L502, 505	1-408-635-00	INDUCTOR 12.40
L209	1-408-637-00	INDUCTOR, 13.00
L211	1-408-862-00	INDUCTOR 6.18
L207	1-408-868-00	INDUCTOR 15.30
L208	1-408-869-00	INDUCTOR 15.70
L210	1-408-873-00	INDUCTOR 74.10
EQ200	1-415-299-00	DELAY LINE, 250 ns
EQ500	1-415-300-00	DELAY LINE, 320 ns
L1, 2, 3, 4	1-421-329-00	COIL, CHOKE
S5, 6	1-516-925-21	SWITCH, DIP, 8-CKT
CF200, 201	1-527-357-00	FILTER, CERAMIC, 5.36MHz
X1, 4, 200	1-527-585-00	VCO, CRYSTAL, 17.734475MHz
X3	1-527-729-00	VCO, CRYSTAL, 14.187500MHz
FB1, 2, 3, 4, 200, 201, 202, 203, 500, 501, 502, 503, 504, 505	1-535-178-00	FERRITE BEAD
S7, 200, 500	1-552-509-00	SWITCH, DIP, 1-CKT
S2	1-554-009-00	SWITCH, TOGGLE
S1, 3	1-554-010-00	SWITCH, TOGGLE
5 PCS	1-560-733-00	PIN, SHORT
2 PCS	1-561-832-00	SOCKET, SHORT
CF202, 203	1-567-066-00	FILTER, CERAMIC, 5.79MHz
X2	1-567-067-00	CRYSTAL, 17.734475MHz
X500	1-567-071-00	VCO, CRYSTAL, 11.5860MHz
X501	1-567-072-00	VCO, CRYSTAL, 12.2970MHz
S4	1-570-281-11	SWITCH, DIP
TH200	1-806-335-00	THERMISTOR, TMD1410H
5 PCS	2-282-313-11	KNOB, CONTROL
TP1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 500, 501, 502, 503, 504, 505, 506, 507, E1, 2, 3, 4, 200, 201, 202, 203, 500, 501, 502	3-657-235-00	TERMINAL, TP
2 PCS	3-673-249-00	LEVER, PC BOARD
5 PCS	7-621-737-08	SETSCREW, HEX. 2.6X3
6 PCS	7-621-912-20	SCREW, B 2.6X5
12 PCS	7-621-981-15	SCREW, PSW 2.6X6
2 PCS	7-626-320-11	PIN, SPRING 3X8
D202	8-712-540-06	DIODE 1T25-41

Ref. No. or Q'ty	Part No.	Description
(SG-67 BOARD, BVT-800PS/BKT-801 FOR PAL)		
D205, 206, 207	8-719-100-27	DIODE RD4.7E-B2
D8	8-719-101-98	DIODE 1SS97
D2, 505	8-719-139-07	DIODE RD3.9E
D204, 208, 209, 210, 503, 504	8-719-162-07	DIODE RD6.2E
D1, 3, 4, 5, 6, 7, 9, 10, 200, 201, 203, 500, 501, 502	8-719-815-55	DIODE 1S1555
Q7	8-729-023-69	TRANSISTOR 2N2369A
Q211, 212, 503, 504, 510, 511	8-729-110-53	TRANSISTOR 2SA1005
Q209, 213, 505	8-729-117-54	TRANSISTOR 2SA1175
Q200, 204, 205, 206, 207, 500, 501, 502, 512	8-729-606-32	TRANSISTOR 2SC2603
Q3, 4, 202, 208, 210, 214, 215, 506, 507, 508, 509	8-729-672-43	TRANSISTOR 2SC2724
IC1F, 4G	8-749-936-51	IC BX365A
IC2C, 3E, 9F	8-749-938-10	IC BX381
IC10Q, 10X	8-757-731-00	IC CX773A
IC10J	8-757-903-00	IC CX7903
IC1L, 1P, 1W, 2H, 2R, 2U, 2Z, 3K, 4K, 4W, 5G, 5K	8-759-000-05	IC MC1496G; MOTOROLA
IC4Z	8-759-001-16	IC MC10116L
IC3N	8-759-016-48	IC MC1648P
IC4S	8-759-100-71	IC UPC71A
IC1R	8-759-145-57	IC UPC4557C
IC3X	8-759-145-58	IC UPC4558C
IC10V	8-759-240-12	IC TC4012BP, CMOS
IC10U	8-759-240-40	IC TC4040BP, CMOS
IC2Y	8-759-301-02	IC HD10102
IC2F, 2X, 3G, 3M, 4M, 4X	8-759-301-31	IC HD10131
IC6B	8-759-374-58	IC HA17458GS
IC9W	8-759-618-41	IC M51841P
IC5S, 5W, 6E, 9N	8-759-900-00	IC SN74LS00N, TTL
IC3B, 5X, 6Y, 8M	8-759-900-04	IC SN74LS04N, TTL

Ref. No. or Q'ty	Part No.	Description
(SG-67 BOARD, BVT-800PS/BKT-801 FOR PAL)		
IC5U	8-759-900-08	IC SN74LS08N, TTL
IC2B, 3C, 7U	8-759-900-11	IC SN74LS11N, TTL
IC4U, 7S, 8P	8-759-900-13	IC SN74LS113AN, TTL
IC10G	8-759-900-20	IC SN74LS20N, TTL
IC10M	8-759-900-30	IC SN74LS30N, TTL
IC3R	8-759-900-59	IC HI1-0201
IC5E, 6S, 7X, 8N, 9P	8-759-900-74	IC SN74LS74AN, TTL
IC5Q, 10N	8-759-900-86	IC SN74LS86N, TTL
IC6P, 7J, 8H, 10C	8-759-901-23	IC SN74LS123N, TTL
IC5D, 7Q, 8J	8-759-901-63	IC SN74LS163AN, TTL
IC1A, 3A, 4B, 5A, 8R, 8V, 10S	8-759-901-64	IC SN74LS164N, TTL
IC6Q, 9U	8-759-901-75	IC SN74LS175N, TTL
IC5Y, 10E	8-759-901-91	IC SN74LS191N, TTL
IC6F, 6U, 6W, 6X, 7W, 7Y, 8Z, 9T, 10W	8-759-902-21	IC SN74LS221N, TTL
IC8Q	8-759-903-65	IC SN74LS365AN, TTL
IC5P, 9S, 10L	8-759-903-93	IC SN74LS393N, TTL
IC3W, 6D, 9L	8-759-906-01	IC TL601CP
IC2S	8-759-906-07	IC TL607CP
IC1C, 4D	8-759-907-60	IC UA760HC
IC8K	8-759-910-51	IC SN74S51N, TTL
IC5C	8-759-910-86	IC SN74S86N, TTL
IC8U, 8Y	8-759-911-33	IC SN74S133N, TTL
IC8L	8-759-911-75	IC SN74S175N, TTL
IC1Z	8-759-930-54	IC CA3054
IC1B, 4C, 9J	8-759-942-21	IC SN74221N, TTL
IC10F	8-759-942-65	IC SN74265N, TTL
IC10D	8-759-952-07	IC SN75207BN, TTL
IC9K	8-759-974-06	IC SN7406N, TTL
IC7K	8-759-974-74	IC SN7474N, TTL

Ref. No. or Q'ty	Part No.	Description
(SG-67 BOARD, BVT-800PS/BKT-801 FOR PAL)		
IC1S, 3U, 4P, 7H, 9D, 10B, 10H	8-759-990-82	IC TL082CP
IC2T, 4R	8-759-990-84	IC TL084CN
Q201, 203, 216	8-761-622-00	TRANSISTOR 2SC1636
Q1, 2, 5, 6	8-769-193-09	TRANSISTOR 2SK43-3

Ref. No. or Q'ty	Part No.	Description
(SG-68 BOARD, BVT-800PS/BKT-802 FOR SECAM)		
R26	1-214-111-00	RES, METAL 130 1% 1/4W
R128, 326, 328, 397, 399, 441, 442, 446	1-214-112-00	RES, METAL 150 1% 1/4W
R61, 105, 165, 166, 203, 204, 310, 312, 336, 382, 384, 407	1-214-116-00	RES, METAL 220 1% 1/4W
R436	1-214-118-00	RES, METAL 270 1% 1/4W
R145, 149, 150, 152, 160, 302, 434	1-214-119-00	RES, METAL 300 1% 1/4W
R172, 305, 376, 431, 448	1-214-120-00	RES, METAL 330 1% 1/4W
R122	1-214-123-00	RES, METAL 430 1% 1/4W
R40, 49, 54, 71, 343, 344, 413, 414	1-214-124-00	RES, METAL 470 1% 1/4W
R114, 115, 118, 121, 134, 136, 300, 430, 432	1-214-125-00	RES, METAL 510 1% 1/4W
R39, 143, 154	1-214-126-00	RES, METAL 560 1% 1/4W
R137, 138, 144, 148, 151	1-214-127-00	RES, METAL 620 1% 1/4W
R329, 401, 439	1-214-128-00	RES, METAL 680 1% 1/4W
R87	1-214-129-00	RES, METAL 750 1% 1/4W
R78	1-214-130-00	RES, METAL 820 1% 1/4W
R22, 24, 25, 28, 32, 34, 35, 36, 41, 42, 43, 44, 46, 56, 57, 84, 107, 109, 153, 161, 187, 188, 191, 192, 313, 315, 317, 318, 321, 323, 337, 339, 340, 346, 347, 355, 365, 370, 371, 372, 373, 386, 388, 389, 392, 394, 408, 409, 410, 416, 417, 444, 449, 458	1-214-132-00	RES, METAL 1K 1% 1/4W
R58, 86, 155, 303, 309, 330, 332, 349, 363, 381, 400, 403, 440	1-214-136-00	RES, METAL 1.5K 1% 1/4W
R7, 8, 11, 113, 135	1-214-138-00	RES, METAL 1.8K 1% 1/4W

Ref. No. or Q'ty	Part No.	Description
(SG-68 BOARD, BVT-800PS/BKT-802 FOR SECAM)		
R4, 167, 168, 183, 185, 354	1-214-139-00	RES, METAL 2.0K 1% 1/4W
R21, 77, 117, 120, 124, 130, 139, 140, 141, 142, 158, 163, 164, 200, 201, 304, 308, 320, 374, 375, 377, 380, 391, 418, 419, 426, 427	1-214-140-00	RES, METAL 2.2K 1% 1/4W
R9, 81	1-214-141-00	RES, METAL 2.4K 1% 1/4W
R27, 156, 361, 362, 367, 369	1-214-142-00	RES, METAL 2.7K 1% 1/4W
R50	1-214-143-00	RES, METAL 3K 1% 1/4W
R19, 47, 59, 63, 65, 67, 69, 70, 90, 72, 73, 80, 129, 173, 175, 209, 210, 217, 218, 219, 230, 231, 234, 331, 402, 438, 503	1-214-144-00	RES, METAL 3.3K 1% 1/4W
R85, 327, 398, 433, 443	1-214-145-00	RES, METAL 3.6K 1% 1/4W
R157, 306, 324, 378, 395, 450	1-214-146-00	RES, METAL 3.9K 1% 1/4W
R108, 174, 205, 206, 208, 445, 501	1-214-148-00	RES, METAL 4.7K 1% 1/4W
R23, 60, 322, 393, 437	1-214-149-00	RES, METAL 5.1K 1% 1/4W
R62	1-214-150-00	RES, METAL 5.6K 1% 1/4W
R334, 342, 405, 412	1-214-152-00	RES, METAL 6.8K 1% 1/4W
R341	1-214-153-00	RES, METAL 7.5K 1% 1/4W
R325, 396, 411, 447	1-214-154-00	RES, METAL 8.2K 1% 1/4W
R18, 126, 169, 170, 171, 180, 182, 202, 211, 345, 348, 360, 364, 415	1-214-156-00	RES, METAL 10K 1% 1/4W
R55, 199, 214, 335, 406, 422, 425	1-214-158-00	RES, METAL 12K 1% 1/4W
R53, 74, 184, 186, 333, 404	1-214-160-00	RES, METAL 15K 1% 1/4W
R195	1-214-162-00	RES, METAL 18K 1% 1/4W

SG-68 BOARD (BVT-800PS/BKT-802) FOR SECAM

Ref. No. or Q'ty	Part No.	Description
1 PC		COMPLETE PCB, SG-68

When the SG-68 complete circuit board is necessary, order a BKT-802.

(This assembly includes the following parts.)

Ref. No. or Q'ty	Part No.	Description
C332	1-102-106-00	CAP, CERAMIC 100PF 10% 50V
C50, 136	1-102-114-00	CAP, CERAMIC 470PF 10% 50V
C131, 132, 333, 337	1-107-075-00	CAP, MICA 39PF 5% 50V
C126	1-107-077-00	CAP, MICA 47PF 5% 50V
C15, 119	1-107-081-00	CAP, MICA 68PF 5% 50V
C57, 140, 142, 143, 145, 149, 150, 152, 353, 357, 371	1-107-085-00	CAP, MICA 100PF 5% 50V
C144, 320, 376	1-107-087-00	CAP, MICA 120PF 5% 50V
C402	1-107-157-00	CAP, MICA 27PF 5% 500V
C14	1-107-206-00	CAP, MICA 15PF 5% 500V
C31, 128	1-107-209-00	CAP, MICA 20PF 5% 500V
C133, 134, 382	1-109-539-00	CAP, MICA 150PF 5% 100V
C356	1-109-541-00	CAP, MICA 200PF 5% 100V
C110	1-109-547-00	CAP, MICA 330PF 5% 100V
C56, 355	1-109-549-00	CAP, MICA 390PF 5% 100V
C55	1-109-553-00	CAP, MICA 470PF 5% 100V
C69, 120, 358	1-123-332-00	CAP, ELECT 47 25V
C324, 349	1-123-341-00	CAP, ELECT 10 35V
C16, 21, 53, 58, 63, 65, 66, 107, 116, 301, 310, 334, 365, 387	1-123-342-00	CAP, ELECT 22 35V
C2, 5, 8, 11	1-123-344-00	CAP, ELECT 47 35V
C29, 61, 67, 146, 147, 148, 319, 321, 346, 373	1-130-471-00	CAP, MYLAR 0.001 5% 50V
C40	1-130-472-00	CAP, MYLAR 0.0012 5% 50V
C28, 36, 153	1-130-475-00	CAP, MYLAR 0.0022 5% 50V
C329, 331	1-130-479-00	CAP, MYLAR 0.0047 5% 50V
C18, 24, 304, 313, 328, 381	1-130-483-00	CAP, MYLAR 0.01 5% 50V
C19, 135	1-130-487-00	CAP, MYLAR 0.022 5% 50V

(SG-68 BOARD, BVT-800PS/BKT-802 FOR SECAM)

Ref. No. or Q'ty	Part No.	Description
C59	1-130-489-00	CAP, MYLAR 0.033 5% 50V
C33, 38, 46	1-130-495-00	CAP, MYLAR 0.1 5% 50V
C339, 388, 390, 391	1-131-342-00	CAP, TANT 0.15 10% 35V
C305, 306, 380, 389	1-131-347-00	CAP, TANT 1.0 10% 35V
C30, 154	1-131-355-00	CAP, TANT 2.2 10% 25V
C39, 47	1-131-359-00	CAP, TANT 10 10% 25V
C322, 345, 347, 370	1-131-371-00	CAP, TANT 10 10% 16V
C102, 118, 130, 307, 308, 314, 315, 318, 336, 338, 340, 374, 378, 379, 386, 393	1-131-373-00	CAP, TANT 22 10% 16V
C100	1-131-374-00	CAP, TANT 33 10% 16V
CV100	1-141-240-00	CAP, TRIMMER 20PF
C49	1-161-039-00	CAP, CERAMIC 0.001 10% 50V
C1, 3, 4, 6, 7, 9, 10, 12, 17, 20, 22, 23, 25, 26, 27, 32, 34, 37, 41, 42, 43, 44, 45, 48, 51, 52, 54, 60, 62, 64, 68, 70, 71, 101, 103, 104, 105, 106, 108, 109, 111, 112, 113, 114, 115, 117, 121, 122, 123, 124, 125, 127, 129, 137, 138, 139, 141, 151, 300, 302, 303, 309, 311, 312, 316, 317, 323, 325, 326, 327, 330, 335, 341, 342, 343, 344, 348, 350, 351, 352, 359, 360, 361, 362, 364, 366, 367, 369, 372, 375, 377, 383, 384, 385, 392, 394, 400, 401	1-161-055-00	CAP, CERAMIC 0.022 10% 50V
C13, 35	1-161-897-31	CAP, CERAMIC 0.33
R366, 368	1-208-252-00	RES, MICRO 50M
R351, 352, 353, 357, 358, 359	1-214-090-00	RES, METAL 18 1% 1/4W
R2, 3, 5, 6, 10, 104, 106, 116, 119, 123, 127, 131, 146, 147, 159, 301, 307, 316, 319, 379, 387, 390, 428, 429, 435	1-214-100-00	RES, METAL 47 1% 1/4W
R110, 176	1-214-101-00	RES, METAL 51 1% 1/4W
R89, 102, 103, 125, 132, 162, 194, 454, 455	1-214-105-00	RES, METAL 75 1% 1/4W
R233	1-214-106-00	RES, METAL 82 1% 1/4W
R12, 16, 38, 66, 88, 111, 112, 177, 178	1-214-108-00	RES, METAL 100 1% 1/4W

Ref. No. or Q'ty	Part No.	Description
(SG-68 BOARD, BVT-800PS/BKT-802 FOR SECAM)		
R179, 181	1-214-163-00	RES, METAL 20K 1% 1/4W
R30, 33, 45, 52, 76, 215, 350	1-214-164-00	RES, METAL 22K 1% 1/4W
R51	1-214-165-00	RES, METAL 24K 1% 1/4W
R198, 356, 423	1-214-166-00	RES, METAL 27K 1% 1/4W
R196, 420	1-214-167-00	RES, METAL 30K 1% 1/4W
R48, 64, 75, 189, 190, 424	1-214-168-00	RES, METAL 33K 1% 1/4W
R197	1-214-169-00	RES, METAL 36K 1% 1/4W
R212	1-214-170-00	RES, METAL 39K 1% 1/4W
R79, 82, 101, 213	1-214-172-00	RES, METAL 47K 1% 1/4W
R29	1-214-173-00	RES, METAL 51K 1% 1/4W
R37	1-214-176-00	RES, METAL 68K 1% 1/4W
R17, 31, 100, 193, 216, 311, 383, 457	1-214-180-00	RES, METAL 100K 1% 1/4W
RV101, 102, 310	1-228-289-00	RES, VAR, METAL 200
RV303	1-228-291-00	RES, VAR, METAL 1K
RV3, 300, 304, 305	1-228-292-00	RES, VAR, METAL 2K
RV4	1-228-293-00	RES, VAR, METAL 5K
RV5, 103, 104, 302, 307, 311	1-228-294-00	RES, VAR, METAL 10K
RV6, 100, 105, 106, 107, 108, 301, 306, 308, 312, 313	1-228-295-00	RES, VAR, METAL 20K
RV1, 2	1-230-740-21	RES, VAR, CARBON 5K
RB1, 2	1-231-450-00	RES BLOCK, 3.3KX8
BP200	1-231-468-00	FILTER, BANDPASS, 4.28MHz
BP300	1-231-469-00	FILTER, BANDPASS, 4.3MHz
BP201	1-231-472-00	FILTER, BANDPASS, 4.43MHz
LP200	1-231-477-00	FILTER, LOW PASS
RB100, 101, 102, 103, 300, 301, 302, 303	1-231-504-00	RES BLOCK, 620X4
CP200	1-235-206-00	CR BLOCK

Ref. No. or Q'ty	Part No.	Description
(SG-68 BOARD, BVT-800PS/BKT-802 FOR SECAM)		
R314, 338, 385, 456	1-247-887-00	RES, CARBON 220K 5% 1/6W
R1, 13, 14, 15, 20, 68, 83	1-247-903-00	RES, CARBON 1.0M 5% 1/6W
LV100	1-407-567-00	COIL, VAR, 4.7
LV300	1-407-569-00	COIL, VAR, 10
L6	1-408-020-00	INDUCTOR, MICRO 68 10%
L100, 101, 102, 300, 301, 304, 305, 306, 307	1-408-409-00	INDUCTOR, MICRO 10 5%
L302, 303	1-408-421-00	INDUCTOR, MICRO 100 5%
L103, 104	1-408-423-00	INDUCTOR, MICRO 150 5%
L5	1-408-425-00	INDUCTOR, MICRO 220 5%
L1, 2, 3, 4	1-421-329-00	COIL, CHOKE
S3, 4	1-516-925-21	SWITCH, DIP, 8-CKT
CF1	1-527-497-00	FILTER, CERAMIC, 4.55MHz
X100	1-527-512-00	CRYSTAL, 5.244141MHz
X1	1-527-729-00	VCO, CRYSTAL, 14.187500MHz
FB1, 2, 3, 100, 300, 301	1-535-178-00	FERRITE BEAD
S5, 100	1-552-509-00	SWITCH, DIP, 1-CKT
S1, 2	1-554-010-00	SWITCH, TOGGLE
J2, 3, 4, 104, 304, 305	1-560-733-00	PIN, SHORT
J2, 3, 4, 104, 304, 305	1-561-832-00	SOCKET, SHORT
2 PCS	2-282-313-11	KNOB, CONTROL
TP1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 100, 101, 102, 103, 104, 105, 106, 107, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309 E1, 2, 3, 4, 100, 101, 102, 300, 301, 302, 303	3-657-235-00	TERMINAL, TP
2 PCS	3-673-249-00	LEVER, PC BOARD
2 PCS	7-621-737-08	SETSCREW, HEX. 2.6X3
6 PCS	7-621-912-20	SCREW, B 2.6X5
12 PCS	7-621-981-15	SCREW, PSW 2.6X6
2 PCS	7-626-320-11	PIN, SPRING 3X8
D105	8-719-100-27	DIODE RD4.7E-B2
D10	8-719-101-98	DIODE 1SS97
D2, 301, 303	8-719-139-07	DIODE RD3.9E

Ref. No. or Q'ty	Part No.	Description
(SG-68 BOARD, BVT-800PS/BKT-802 FOR SECAM)		
D300, 302	8-719-151-07	DIODE RD5.1E-B
D100	8-719-191-07	DIODE RD9.1E
D1, 3, 4, 5, 6, 7, 8, 9, 11, 12, 101, 102, 103, 104	8-719-815-55	DIODE 1S1555
Q7	8-729-023-69	TRANSISTOR 2N2369A
Q110, 305, 307, 308, 314, 318	8-729-117-54	TRANSISTOR 2SA1175
Q100, 104, 109, 111, 300, 301, 302, 306, 310, 311, 321	8-729-606-32	TRANSISTOR 2SC2603
Q3, 4, 102, 105, 107, 108, 303, 304, 309, 312, 313, 315, 316, 319, 320	8-729-672-43	TRANSISTOR 2SC2724
IC5B	8-749-936-51	IC BX365A
IC7J, 9R	8-757-731-00	IC CX773A, C-MOS
IC8G	8-757-903-00	IC CX7903, C-MOS
IC1E, 1R, 2P, 3E, 5C	8-759-000-05	IC MC1496G; MOTOROLA
IC1A, 1Q, 3A, 3R, 5G	8-759-001-16	IC MC10116L, ECL
IC3N	8-759-001-98	IC MC10198L
IC1P, 7E	8-759-103-19	IC UPC319C
IC2Q	8-759-145-57	IC UPC4557C
IC9L	8-759-240-12	IC TC4012BP, C-MOS
IC8L	8-759-240-40	IC TC4040BP, C-MOS
IC3P, 3Q, 5F	8-759-301-02	IC HD10102, ECL
IC4A	8-759-301-07	IC HD10107, ECL
IC1C, 3C	8-759-608-52	IC CX852
IC4G	8-759-608-54	IC CX854
IC4H	8-759-608-55	IC CX855
IC9P	8-759-618-41	IC M51841P
IC301	8-759-700-14	IC NJM78M09A
IC5M, 5R, 6D, 9K	8-759-900-00	IC SN74LS00N, TTL
IC5L, 6T, 8K, 8S	8-759-900-04	IC SN74LS04N, TTL
IC4Q, 4R, 5N, 7Q	8-759-900-08	IC SN74LS08N, TTL

Ref. No. or Q'ty	Part No.	Description
(SG-68 BOARD, BVT-800PS/BKT-802 FOR SECAM)		
IC6F	8-759-900-10	IC SN74LS10N, TTL
IC6C	8-759-900-11	IC SN74LS11N, TTL
IC6L, 7T	8-759-900-13	IC SN74LS113AN, TTL
IC6E	8-759-900-20	IC SN74LS20N, TTL
IC7F	8-759-900-30	IC SN74LS30N, TTL
IC5Q, 6R, 8Q, 8T, 9D	8-759-900-74	IC SN74LS74AN, TTL
IC5P, 7H	8-759-900-86	IC SN74LS86N, TTL
IC6P, 8E, 9J	8-759-901-23	IC SN74LS123N, TTL
IC6M, 7R	8-759-901-63	IC SN74LS163AN, TTL
IC6G, 6H, 7M, 7S, 8M	8-759-901-64	IC SN74LS164N, TTL
IC6N, 7L	8-759-901-75	IC SN74LS175N, TTL
IC4S, 4T, 5S, 5T, 6A, 6B, 6J, 6S, 9N, 9Q	8-759-902-21	IC SN74LS221N, TTL
IC7K	8-759-903-65	IC SN74LS365AN, TTL
IC6Q, 7G	8-759-903-93	IC SN74LS393N, TTL
IC1H, 3H, 4N	8-759-905-77	IC HI1-200-5, C-MOS
IC1M, 9F	8-759-906-01	IC TL601CP, P-MOS
IC9E	8-759-906-69	IC SN74LS669N, TTL
IC7P, 8P	8-759-911-33	IC SN74S133N, TTL
IC8F	8-759-942-21	IC SN74221N, TTL
IC9C	8-759-942-65	IC SN74265N, TTL
IC8B	8-759-952-07	IC SN75207BN, TTL
IC5H, 8H	8-759-974-06	IC SN7406N, TTL
IC1N, 4J, 8C	8-759-990-82	IC TL082CP
IC1G, 3G, 4P, 5J, 9B	8-759-990-84	IC TL084CN
Q101, 103	8-761-622-00	TRANSISTOR 2SC1636
Q1, 2, 5, 6	8-769-193-09	TRANSISTOR 2SK43-3

PR-40 BOARD (BVT-800PS)

Ref. No. or Q'ty	Part No.	Description
1 PC	A-6257-111-A	COMPLETE PCB, PR-40
(This assembly includes the following parts.)		
C507	1-107-026-00	CAP, MICA 5.1PF +/-0.5PF 500V
C121, 611	1-107-048-00	CAP, MICA 6.8PF +/-0.5PF 500V
C514	1-107-077-00	CAP, MICA 47PF 5% 50V
C614	1-107-202-00	CAP, MICA 10PF 5% 500V
C201, 218, 233, 240, 548, 566, 567, 568, 569, 570, 571, 572, 573, 574, 590, 591, 592, 593, 594, 595, 596, 597, 604	1-107-211-00	CAP, MICA 24PF 5% 500V
C231, 581	1-109-527-00	CAP, MICA 47PF 5% 100V
C204	1-109-530-00	CAP, MICA 62PF 5% 100V
C156, 165	1-109-531-00	CAP, MICA 68PF 5% 100V
C194, 517	1-109-532-00	CAP, MICA 75PF 5% 100V
C146, 160	1-109-535-00	CAP, MICA 100PF 5% 100V
C234, 516, 537, 612	1-109-537-00	CAP, MICA 120PF 5% 100V
C116	1-109-540-00	CAP, MICA 180PF 5% 100V
C150, 609	1-109-547-00	CAP, MICA 330PF 5% 100V
C162	1-109-553-00	CAP, MICA 470PF 5% 100V
C143	1-109-554-00	CAP, MICA 510PF 5% 100V
C550	1-109-745-00	CAP, MICA 17PF +/-0.5PF 100V
C527	1-109-746-00	CAP, MICA 25PF +/-0.5PF 100V
C128	1-109-747-00	CAP, MICA 23PF +/-0.5PF 100V
C138	1-109-748-00	CAP, MICA 21PF +/-0.5PF 100V
C563	1-109-751-00	CAP, MICA 55PF 1% 100V
C555	1-109-754-00	CAP, MICA 65PF 1% 100V
C553	1-109-755-00	CAP, MICA 74PF 1% 100V
C132	1-109-756-00	CAP, MICA 76PF 1% 100V
C140, 142	1-109-757-00	CAP, MICA 79PF 1% 100V
C130, 561	1-109-758-00	CAP, MICA 83PF 1% 100V
C136, 560	1-109-761-00	CAP, MICA 92PF 1% 100V
C558	1-109-762-00	CAP, MICA 104PF 1% 100V
C549	1-109-764-00	CAP, MICA 122PF 1% 100V
C127	1-109-768-00	CAP, MICA 139PF 1% 100V
C141	1-109-769-00	CAP, MICA 166PF 1% 100V
C129	1-109-770-00	CAP, MICA 185PF 1% 100V
C134	1-109-771-00	CAP, MICA 85PF 1% 100V
C554	1-109-772-00	CAP, MICA 283PF 1% 100V
C552	1-109-773-00	CAP, MICA 314PF 1% 100V
C139	1-109-774-00	CAP, MICA 359PF 1% 100V
C562	1-109-779-00	CAP, MICA 480PF 1% 100V

Ref. No. or Q'ty	Part No.	Description
(PR-40 BOARD, BVT-800PS)		
C557	1-109-780-00	CAP, MICA 660PF 1% 100V
C559	1-109-784-00	CAP, MICA 1408PF 1% 100V
C521	1-109-786-00	CAP, MICA 63PF 1% 100V
C133	1-109-787-00	CAP, MICA 66PF 1% 100V
C522	1-109-788-00	CAP, MICA 70PF 1% 100V
C523	1-109-789-00	CAP, MICA 82PF 1% 100V
C525	1-109-790-00	CAP, MICA 90PF 1% 100V
C528	1-109-791-00	CAP, MICA 150PF 1% 100V
C526	1-109-792-00	CAP, MICA 199PF 1% 100V
C131	1-109-793-00	CAP, MICA 256PF 1% 100V
C524	1-109-794-00	CAP, MICA 275PF 1% 100V
C137	1-109-795-00	CAP, MICA 445PF 1% 100V
C520	1-109-797-00	CAP, MICA 900PF 1% 100V
C135	1-109-798-00	CAP, MICA 1223PF 1% 100V
C124	1-123-307-00	CAP, ELECT 100 10V
C114, 115	1-123-330-00	CAP, ELECT 22 25V
C111, 126	1-123-332-00	CAP, ELECT 47 25V
C117, 123	1-123-341-00	CAP, ELECT 10 35V
C5, 6, 178, 179, 187, 198, 199, 216, 217, 227, 230, 239, 249, 250, 529, 530, 540, 541, 564, 577, 599, 610	1-123-343-00	CAP, ELECT 33 35V
C1, 2, 3, 4	1-123-345-00	CAP, ELECT 100 35V
C120, 190, 248, 576, 613	1-130-471-00	CAP, MYLAR 0.001 5% 50V
C235, 536, 584	1-130-475-00	CAP, MYLAR 0.0022 5% 50V
C154	1-130-479-00	CAP, MYLAR 0.0047 5% 50V
C118, 119, 144, 145, 152, 175	1-130-483-00	CAP, MYLAR 0.01 5% 50V
C153, 176, 513, 556	1-130-487-00	CAP, MYLAR 0.022 5% 50V
C147	1-131-345-00	CAP, TANT 0.47 10% 35V
C155, 191, 510, 511, 534, 535, 579, 580	1-131-349-00	CAP, TANT 2.2 10% 35V
C228, 229, 252, 253	1-131-351-00	CAP, TANT 4.7 10% 35V

Ref. No. or Q'ty	Part No.	Description
(PR-40 BOARD, BVT-800PS)		
C173, 174, 188, 189	1-131-359-00	CAP, TANT 10 10% 25V
C171, 172, 226, 238	1-131-373-00	CAP, TANT 22 10% 16V
C110, 125	1-131-374-00	CAP, TANT 33 10% 16V
C7, 8, 9, 10, 11, 12, 101, 102, 103, 104, 105, 106, 107, 108, 109, 112, 113, 148, 149, 151, 157, 158, 159, 161, 163, 164, 166, 167, 169, 170, 177, 180, 181, 182, 183, 184, 185, 186, 192, 193, 195, 196, 197, 200, 202, 203, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 219, 220, 221, 222, 223, 224, 225, 232, 236, 237, 241, 242, 244, 245, 246, 247, 251, 501, 502, 503, 504, 505, 506, 508, 509, 512, 515, 518, 519, 531, 532, 533, 538, 539, 542, 543, 544, 545, 546, 547, 551, 565, 575, 578, 582, 583, 585, 586, 587, 588, 589, 598, 600, 601, 602, 603, 605, 606, 607, 608	1-161-055-00	CAP, CERAMIC 0.022 10% 50V
C513	1-161-894-00	CAP, CERAMIC 0.1 50V
R273	1-214-084-00	RES, METAL 10 1% 1/4W
R264, 276	1-214-086-00	RES, METAL 12 1% 1/4W
R227, 228, 244, 255, 267, 268	1-214-088-00	RES, METAL 15 1% 1/4W
R199, 236	1-214-090-00	RES, METAL 18 1% 1/4W
R271	1-214-092-00	RES, METAL 22 1% 1/4W
R607, 608	1-214-095-00	RES, METAL 30 1% 1/4W
R249, 259	1-214-096-00	RES, METAL 33 1% 1/4W
R144, 253, 261	1-214-097-00	RES, METAL 36 1% 1/4W
R102, 115, 117, 136, 187, 190, 195, 206, 208, 213, 214, 233, 504, 514, 538, 570, 650	1-214-100-00	RES, METAL 47 1% 1/4W
R170, 171	1-214-101-00	RES, METAL 51 1% 1/4W
R104, 113, 118, 137, 194, 231, 263, 274, 290, 291, 292, 293, 294, 295, 296, 297, 306, 307, 308, 309, 310, 311, 312, 313, 501, 502, 509, 513, 521, 522, 563, 597, 604, 643	1-214-105-00	RES, METAL 75 1% 1/4W
R126, 134, 141	1-214-106-00	RES, METAL 82 1% 1/4W
R537, 680	1-214-107-00	RES, METAL 91 1% 1/4W

Ref. No. or Q'ty	Part No.	Description
(PR-40 BOARD, BVT-800PS)		
R131, 240, 542	1-214-108-00	RES, METAL 100 1% 1/4W
R101	1-214-109-00	RES, METAL 110 1% 1/4W
R247, 252, 257, 262, 560, 561, 605	1-214-110-00	RES, METAL 120 1% 1/4W
R260, 586, 587, 642	1-214-112-00	RES, METAL 150 1% 1/4W
R600	1-214-113-00	RES, METAL 160 1% 1/4W
R108, 582, 657	1-214-114-00	RES, METAL 180 1% 1/4W
R107, 140, 159, 161, 163, 186, 189, 217, 241, 284, 530, 531	1-214-116-00	RES, METAL 220 1% 1/4W
R512	1-214-117-00	RES, METAL 240 1% 1/4W
R193, 198, 232, 250	1-214-118-00	RES, METAL 270 1% 1/4W
R105, 106, 142, 205, 207, 519, 539, 562	1-214-119-00	RES, METAL 300 1% 1/4W
R646	1-214-120-00	RES, METAL 330 1% 1/4W
R110, 130, 180, 517, 536, 609, 623	1-214-121-00	RES, METAL 360 1% 1/4W
R591, 671, 672	1-214-122-00	RES, METAL 390 1% 1/4W
R175	1-214-123-00	RES, METAL 430 1% 1/4W
R111, 245, 246, 248, 254, 256, 258	1-214-124-00	RES, METAL 470 1% 1/4W
R182, 526	1-214-125-00	RES, METAL 510 1% 1/4W
R197, 235, 644	1-214-126-00	RES, METAL 560 1% 1/4W
R103, 225, 503, 515	1-214-127-00	RES, METAL 620 1% 1/4W
R185, 543, 564	1-214-128-00	RES, METAL 680 1% 1/4W
R123, 158, 511, 534	1-214-129-00	RES, METAL 750 1% 1/4W

Ref. No. or Q'ty	Part No.	Description
(PR-40 BOARD, BVT-800PS)		
R520	1-214-130-00	RES, METAL 820 1% 1/4W
R203, 226, 314, 520	1-214-131-00	RES, METAL 910 1% 1/4W
R127, 133, 143, 146, 152, 153, 155, 160, 165, 167, 169, 188, 238, 251, 277, 316, 505, 507, 544, 677	1-214-132-00	RES, METAL 1K 1% 1/4W
R112, 272, 279, 305, 610, 611, 612, 613, 614, 615, 616, 617, 618, 662, 663, 664, 665, 666, 667, 668, 669, 670, 673,	1-214-133-00	RES, METAL 1.1K 1% 1/4W
R265, 270, 527, 641	1-214-134-00	RES, METAL 1.2K 1% 1/4W
R121, 209, 278, 302, 516, 568, 593, 648, 674	1-214-136-00	RES, METAL 1.5K 1% 1/4W
R135, 304, 569, 649	1-214-137-00	RES, METAL 1.6K 1% 1/4W
R192, 215, 266, 269, 275, 535, 571, 592, 595, 596, 603, 651	1-214-138-00	RES, METAL 1.8K 1% 1/4W
R147, 149, 223, 525	1-214-139-00	RES, METAL 2.0K 1% 1/4W
R1, 125, 162, 177, 178, 285, 402, 510, 555, 640	1-214-140-00	RES, METAL 2.2K 1% 1/4W
R109, 116, 119, 150, 191, 210, 211, 216, 578, 601, 660	1-214-141-00	RES, METAL 2.4K 1% 1/4W
R132, 547, 559, 606	1-214-142-00	RES, METAL 2.7K 1% 1/4W
R174, 229, 230, 286, 299, 301, 401, 583, 658, 659, 661, 682	1-214-144-00	RES, METAL 3.3K 1% 1/4W
R128, 280, 281, 602, 655	1-214-145-00	RES, METAL 3.6K 1% 1/4W
R218, 573, 654	1-214-146-00	RES, METAL 3.9K 1% 1/4W

Ref. No. or Q'ty	Part No.	Description
(PR-40 BOARD, BVT-800PS)		
R196, 234, 288, 303, 506, 523, 567, 647, 676	1-214-147-00	RES, METAL 4.3K 1% 1/4W
R120, 554, 565, 588, 594, 645	1-214-148-00	RES, METAL 4.7K 1% 1/4W
R164, 221, 224, 237, 239, 243, 533	1-214-149-00	RES, METAL 5.1K 1% 1/4W
R204, 242	1-214-151-00	RES, METAL 6.2K 1% 1/4W
R201, 551, 552	1-214-153-00	RES, METAL 7.5K 1% 1/4W
R129	1-214-154-00	RES, METAL 8.2K 1% 1/4W
R548	1-214-155-00	RES, METAL 9.1K 1% 1/4W
R138, 166, 172, 179, 181, 183, 300, 317, 572, 653	1-214-156-00	RES, METAL 10K 1% 1/4W
R114, 156, 212, 282, 633, 634	1-214-158-00	RES, METAL 12K 1% 1/4W
R528	1-214-159-00	RES, METAL 13K 1% 1/4W
R148, 508, 524, 545, 550, 553, 576, 577, 579, 656, 678	1-214-160-00	RES, METAL 15K 1% 1/4W
R124, 184, 574, 575, 581, 679	1-214-161-00	RES, METAL 16K 1% 1/4W
R589, 619, 639	1-214-163-00	RES, METAL 20K 1% 1/4W
R151, 681	1-214-164-00	RES, METAL 22K 1% 1/4W
R287, 624, 635	1-214-165-00	RES, METAL 24K 1% 1/4W
R122, 598	1-214-166-00	RES, METAL 27K 1% 1/4W
R139, 145, 154, 157, 580	1-214-168-00	RES, METAL 33K 1% 1/4W
R176	1-214-170-00	RES, METAL 39K 1% 1/4W
R675	1-214-171-00	RES, METAL 43K 1% 1/4W
R168	1-214-172-00	RES, METAL 47K 1% 1/4W

Ref. No. or Q'ty	Part No.	Description
(PR-40 BOARD, BVT-800PS)		
R220, 283, 529, 590, 638	1-214-173-00	RES, METAL 51K 1% 1/4W
R585	1-214-177-00	RES, METAL 75K 1% 1/4W
R222, 546, 636	1-214-180-00	RES, METAL 100K 1% 1/4W
RV102	1-228-290-00	RES, VAR, METAL 500
RV101, 104, 108, 110, 503	1-228-291-00	RES, VAR, METAL 1K
RV107	1-228-292-00	RES, VAR, METAL 2K
RV105	1-228-293-00	RES, VAR, METAL 5K
RV103	1-228-294-00	RES, VAR, METAL 10K
RV106, 109, 501, 504, 505, 506, 508, 509	1-228-295-00	RES, VAR, METAL 20K
RV1	1-230-738-21	RES, VAR, CARBON 200
RV2, 3, 4, 5	1-230-740-21	RES, VAR, CARBON 5K
RB502, 503, 505, 508	1-231-450-00	RES BLOCK, 3.3KX8
RB506	1-231-504-00	RES BLOCK, 620X4
RB102, 103, 104, 105	1-231-509-00	RES BLOCK, 1K
RB101, 106, 504	1-231-521-00	RES BLOCK, 3.3KX4
RB501, 507	1-235-128-00	RES BLOCK, 1.5K
RB1	1-235-130-00	RES BLOCK, 680K
CP501	1-235-206-00	CR BLOCK
R315, 532	1-247-895-00	RES, CARBON 470K 5% 1/6W
R200, 202, 566, 652	1-247-900-00	RES, CARBON 750K 5% 1/6W
R219, 549	1-247-901-00	RES, CARBON 820K 5% 1/6W
R173	1-247-903-00	RES, CARBON 1.0M 5% 1/6W
L115	1-408-419-00	INDUCTOR, MICRO 68 5%
L101, 102	1-408-421-00	INDUCTOR, MICRO 100 5%
L103	1-408-425-00	INDUCTOR, MICRO 220 5%
L513	1-408-624-00	INDUCTOR 1.25
L507	1-408-626-00	INDUCTOR 2.28
L506	1-408-627-00	INDUCTOR 2.49
L114	1-408-628-00	INDUCTOR 2.72
L512	1-408-629-00	INDUCTOR 5.03

Ref. No. or Q'ty	Part No.	Description
(PR-40 BOARD, BVT-800PS)		
L510	1-408-631-00	INDUCTOR 6.30
L511	1-408-632-00	INDUCTOR 6.36
L514	1-408-633-00	INDUCTOR 10.80
L111, 112	1-408-635-00	INDUCTOR 12.40
L106	1-408-637-00	INDUCTOR 13.00
L508	1-408-648-00	INDUCTOR 14.80
L509	1-408-649-00	INDUCTOR 31.70
L113	1-408-650-00	INDUCTOR 32.30
L116	1-408-863-00	INDUCTOR 6.57
L505	1-408-864-00	INDUCTOR 6.82
L108	1-408-865-00	INDUCTOR 8.79
L109	1-408-866-00	INDUCTOR 9.23
L502	1-408-867-00	INDUCTOR 14.00
L104	1-408-868-00	INDUCTOR 15.30
L105	1-408-869-00	INDUCTOR 15.70
L504	1-408-870-00	INDUCTOR 16.40
L503	1-408-871-00	INDUCTOR 16.90
L110	1-408-872-00	INDUCTOR 40.00
L501	1-408-874-00	INDUCTOR 81.00
L107	1-408-875-00	INDUCTOR 110
L1, 2, 3, 4	1-421-329-00	COIL, CHOKE
T101, 102	1-446-330-00	TRANSOFMER, PULSE
FB1, 2, 3, 4, 5, 6, 7, 8, 101, 102, 103, 104, 105, 106, 501, 502	1-535-178-00	FERRITE BEAD
S101	1-552-509-00	SWITCH, DIP, 1-CKT
S1, 2, 3, 4, 5	1-554-010-00	SWITCH, TOGGLE
VCO501	1-567-070-00	VCO, CRYSTAL, 10.8750MHz
S6	1-570-281-11	SWITCH, DIP
5 PCS	2-282-313-11	KNOB, CONTROL
TP101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 501, 502, 503, 504, 505, 506, 507		
E101, 102, 103, 104, 105, 106, 107, 108, 501, 502, 503, 504, 505, 506, 507	3-657-235-00	TERMINAL, TP
1 PC	3-673-249-01	LEVER, PC BOARD
5 PCS	7-621-737-08	SETSCREW, HEX. 2.6X3
6 PCS	7-621-912-20	SCREW, B 2.6X5
12 PCS	7-621-981-15	SCREW, PSW 2.6X6
2 PCS	7-626-320-11	PIN, SPRING 3X8
D106, 107	8-719-101-98	DIODE 1SS97
D115	8-719-102-52	DIODE 1SZ52
D101	8-719-116-07	DIODE RD16E-B
D502	8-719-151-07	DIODE RD5.1E-B

Ref. No. or Q'ty	Part No.	Description
(PR-40 BOARD, BVT-800PS)		
D102, 103, 104, 105, 108, 109, 110, 111, 112, 113, 503	8-719-815-55	DIODE 1S1555
D114, 120, 125, 126, 127, 501	8-719-815-80	DIODE 1S1587
D116, 117, 118, 119, D121, 122, 123, 124	8-719-101-98	DIODE 1SS97
Q134	8-729-113-32	TRANSISTOR 2SB733
Q101, 102, 106, 107, 115, 121, 122, 504, 511, 513, 516	8-729-117-54	TRANSISTOR 2SA1115
Q131, 136	8-729-353-00	TRANSISTOR 2SA530H
Q124, 126, 130, 132, 133, 135, 137, 140, 503, 510, 515	8-729-368-90	TRANSISTOR 2SC689H
Q103, 104, 105, 108, 109, 110, 111, 112, 116, 117, 118, 123, 125, 127, 502	8-729-672-43	TRANSISTOR 2SC2724
Q505	8-729-699-51	TRANSISTOR 2SA995
IC101, 116, 118, 501, 503, 511	8-749-936-51	IC BX365A
IC504, 512	8-752-005-11	IC CX20051A
IC121, 124	8-752-005-20	IC CX20052
IC529, 530	8-759-000-05	IC MC1496G; MOTOROLA
IC108, 115	8-759-103-19	IC UPC319C
IC1, 104	8-759-132-40	IC UPC324C
IC120, 502, 506, 507, 517	8-759-145-57	IC UPC4557C
IC102	8-759-200-60	IC TA7060AP
IC125, 126, 130, 131	8-759-300-25	IC HD10125
IC522	8-759-001-16	IC MC10116L
IC103	8-759-900-00	IC SN74LS00N, TTL
IC128	8-759-900-02	IC SN74LS02N, TTL
IC133, 516, 526	8-759-900-04	IC SN74LS04N, TTL

Ref. No. or Q'ty	Part No.	Description
(PR-40 BOARD, BVT-800PS)		
IC109	8-759-900-11	IC SN74LS11N, TTL
IC113	8-759-900-58	IC HA1-4905
IC112, 134	8-759-900-59	IC HI1-0201
IC129	8-759-900-74	IC SN74LS74AN, TTL
IC518	8-759-900-86	IC SN74LS86N, TTL
IC106, 110	8-759-901-23	IC SN74LS123N, TTL
IC520, 524	8-759-901-63	IC SN74LS163AN, TTL
IC107	8-759-901-91	IC SN74LS191N, TTL
IC127, 528	8-759-902-21	IC SN74LS221N, TTL
IC525	8-759-902-40	IC SN74LS240N, TTL
IC515, 521	8-759-902-73	IC SN74LS273N, TTL
IC527	8-759-903-74	IC SN74LS374N, TTL
IC123, 509, 514	8-759-906-01	IC TL601CP
IC519, 523	8-759-906-70	IC SN74LS670N, TTL
IC132	8-759-910-04	IC SN74S04N, TTL
IC505	8-759-931-02	IC CA3102E
IC105	8-759-974-06	IC SN7406N, TTL
IC111, 114, 117, 119, 122, 508, 510, 513	8-759-990-82	IC TL082CP
Q119, 120, 501, 507, 517	8-761-622-00	TRANSISTOR 2SC1636
Q506	8-765-300-00	TRANSISTOR 2SC2009
Q113, 114, 128, 129, 138, 139, 512	8-769-193-09	TRANSISTOR 2SK43-3

CK-11 BOARD (BVT-800PS)

Ref. No. or Q'ty	Part No.	Description
1 PC	A-6259-216-A	COMPLETE PCB, CK-11
(This assembly includes the following parts.)		
C23, 82, 131, 132	1-102-110-00	CAP, CERAMIC 220PF 10% 50V
C14, 15, 31	1-102-114-00	CAP, CERAMIC 470PF 10% 50V
C55	1-102-859-00	CAP, CERAMIC 75PF 5% 50V
C49, 50	1-107-077-00	CAP, MICA 47PF 5% 50V
C38, 65	1-107-082-00	CAP, MICA 75PF 5% 50V
C32	1-107-083-00	CAP, MICA 82PF 5% 50V
C4, 5	1-107-085-00	CAP, MICA 100PF 5% 50V
C1, 2, 46	1-107-210-00	CAP, MICA 22PF 5% 500V
C33, 34	1-109-539-00	CAP, MICA 150PF 5% 100V
C43	1-109-542-00	CAP, MICA 220PF 5% 100V
C3	1-109-553-00	CAP, MICA 470PF 5% 100V
C69, 72	1-109-561-00	CAP, MICA 0.001 5% 100V
C85, 87, 89, 91	1-123-344-00	CAP, ELECT 47 35V
C30, 76, 77, 80	1-130-471-00	CAP, MYLAR 0.001 5% 50V
C75	1-130-473-00	CAP, MYLAR 0.0015 5% 50V
C81	1-130-483-00	CAP, MYLAR 0.01 5% 50V
C74	1-130-487-00	CAP, MYLAR 0.022 5% 50V
C79, 83	1-130-489-00	CAP, MYLAR 0.033 5% 50V
C44	1-130-493-00	CAP, MYLAR 0.068 5% 50V
C73	1-130-495-00	CAP, MYLAR 0.1 5% 50V
C7	1-130-852-00	CAP, FILM 0.0015 5% 100V
C6	1-130-853-00	CAP, FILM 0.0047 5% 100V
C47, 48	1-131-343-00	CAP, TANT 0.22 10% 35V
C78	1-131-344-00	CAP, TANT 0.33 10% 35V
C9, 28, 29	1-131-345-00	CAP, TANT 0.47 10% 35V
C8	1-131-355-00	CAP, TANT 2.2 10% 25V
C63, 64	1-131-357-00	CAP, TANT 4.7 10% 25V
C19, 20, 36, 37, 66, 68, 71	1-131-373-00	CAP, TANT 22 10% 16V
C35, 45, 51, 53, 54, 56, 59	1-161-039-00	CAP, CERAMIC 0.001 10% 50V
C10, 11, 12, 13, 16, 17, 18, 21, 22, 24, 25, 26, 27, 39, 40, 41, 42, 52, 57, 58, 60, 61, 62, 67, 70, 84, 86, 88, 90, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114	1-161-055-00	CAP, CERAMIC 0.022 10% 50V

Ref. No. or Q'ty	Part No.	Description
(CK-11 BOARD, BVT-800PS)		
R71, 84	1-214-101-00	RES, METAL 51 1% 1/4W
R19	1-214-104-00	RES, METAL 68 1% 1/4W
R14, 66	1-214-108-00	RES, METAL 100 1% 1/4W
R18, 85	1-214-110-00	RES, METAL 120 1% 1/4W
R23	1-214-112-00	RES, METAL 150 1% 1/4W
R30	1-214-114-00	RES, METAL 180 1% 1/4W
R33, 76, 79	1-214-115-00	RES, METAL 200 1% 1/4W
R43	1-214-116-00	RES, METAL 220 1% 1/4W
R22	1-214-118-00	RES, METAL 270 1% 1/4W
R99	1-214-120-00	RES, METAL 330 1% 1/4W
R9	1-214-122-00	RES, METAL 390 1% 1/4W
R50	1-214-123-00	RES, METAL 430 1% 1/4W
R69, 87	1-214-125-00	RES, METAL 510 1% 1/4W
R78	1-214-127-00	RES, METAL 620 1% 1/4W
R49, 95	1-214-128-00	RES, METAL 680 1% 1/4W
R102	1-214-131-00	RES, METAL 910 1% 1/4W
R5, 8, 15, 32, 35, 39, 72, 81, 83, 88, 89, 100	1-214-132-00	RES, METAL 1K 1% 1/4W
R27	1-214-136-00	RES, METAL 1.5K 1% 1/4W
R41, 47, 51, 68, 86, 93	1-214-140-00	RES, METAL 2.2K 1% 1/4W
R7, 63	1-214-142-00	RES, METAL 2.7K 1% 1/4W
R40, 56, 57, 58, 64, 65, 67, 98, 114, 116	1-214-144-00	RES, METAL 3.3K 1% 1/4W
R48, 74, 75, 80	1-214-148-00	RES, METAL 4.7K 1% 1/4W
R11, 37, 42, 55, 94, 101	1-214-149-00	RES, METAL 5.1K 1% 1/4W
R1, 2, 73, 82, 96, 97	1-214-150-00	RES, METAL 5.6K 1% 1/4W
R13	1-214-152-00	RES, METAL 6.8K 1% 1/4W
R4	1-214-153-00	RES, METAL 7.5K 1% 1/4W
R3	1-214-154-00	RES, METAL 8.2K 1% 1/4W
R10, 16, 17, 20, 21, 24, 25, 26, 28, 29, 34, 38, 44, 45, 60, 70, 77, 90, 91	1-214-156-00	RES, METAL 10K 1% 1/4W
R109	1-214-158-00	RES, METAL 12K 1% 1/4W
R103	1-214-159-00	RES, METAL 13K 1% 1/4W
R12, 31, 36, 108	1-214-162-00	RES, METAL 18K 1% 1/4W

Ref. No. or Q'ty	Part No.	Description
(CK-11 BOARD, BVT-800PS)		
R6	1-214-164-00	RES, METAL 22K 1% 1/4W
R112	1-214-165-00	RES, METAL 24K 1% 1/4W
R46, 61, 62, 105	1-214-168-00	RES, METAL 33K 1% 1/4W
R113	1-214-169-00	RES, METAL 36K 1% 1/4W
R92	1-214-170-00	RES, METAL 39K 1% 1/4W
R52	1-214-171-00	RES, METAL 43K 1% 1/4W
R53, 106, 107	1-214-172-00	RES, METAL 47K 1% 1/4W
R115	1-214-174-00	RES, METAL 56K 1% 1/4W
R104	1-214-175-00	RES, METAL 62K 1% 1/4W
R54, 59, 110, 111	1-214-180-00	RES, METAL 100K 1% 1/4W
RV1	1-228-292-00	RES, VAR, METAL 2K
RV2, 3, 4, 5	1-228-294-00	RES, VAR, METAL 10K
LV1	1-407-564-00	COIL, VAR, 1.5
LV2	1-407-565-00	COIL, VAR, 2.2
L1, 2	1-408-401-00	INDUCTOR, MICRO 2.2 5%
L3, 5, 6	1-421-329-00	COIL, CHOKE
L4	1-421-459-00	COIL, CHOKE
FB1, 2, 3, 4, 5	1-535-178-00	FERRITE BEAD
S2	1-552-509-00	SWITCH, DIP, 1-CKT
S1	1-554-168-00	SWITCH, SLIDE
X1	1-567-070-00	VCO, CRYSTAL; 10.8750MHz
TP1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 E1, 2, 3, 4, 5, 6, 7, 8	3-657-235-00	TERMINAL, TP
2 PCS	3-673-249-00	LEVER, PC BOARD
6 PCS	7-621-912-20	SCREW, B 2.6X5
12 PCS	7-621-981-15	SCREW, PSW 2.6X6
2 PCS	7-626-320-11	PIN, SPRING 3X8
D4, 5	8-712-540-06	DIODE 1T25-41
D11	8-719-101-98	DIODE 1SS97
D8	8-719-191-07	DIODE RD9.1E
D1, 2, 3, 6, 7, 9, 10	8-719-815-55	DIODE 1S1555
D12	8-719-911-19	DIODE 1SS119
D13	8-719-911-19	DIODE 1SS119

Ref. No. or Q'ty	Part No.	Description
(CK-11 BOARD, BVT-800PS)		
Q1, 6, 8	8-729-612-77	TRANSISTOR 2SA1027R
Q2, 3, 4, 5, 7, 9, 10, 11	8-729-672-43	TRANSISTOR 2SC2724
IC1B, 9T	8-749-938-10	IC BX381
IC9P, 10K	8-759-103-19	IC UPC319C
IC3A, 3F	8-759-240-20	IC TC4020BP, CMOS
IC9G	8-759-300-25	IC HD10125
IC9S	8-759-745-60	IC NJM4560D
IC4G	8-759-756-85	IC, PROM, TBP28S42N-YADR
IC6H	8-759-756-86	IC, PROM, TBP28S42N-CADR
IC2H	8-759-757-91	IC, PROM, MB7051-YCDL
IC2N, 4E, 5K, 5M, 8H, 9K, 10A	8-759-900-00	IC SN74LS00N, TTL
IC1H, 2M, 2Q, 3K, 5E, 8D, 9L	8-759-900-04	IC SN74LS04N, TTL
IC6D, 8S	8-759-900-08	IC SN74LS08N, TTL
IC 2D, 8E, 9V	8-759-900-10	IC SN74LS10N, TTL
IC10M	8-759-900-11	IC SN74LS11N, TTL
IC6E	8-759-900-14	IC SN74LS14N, TTL
IC8B	8-759-900-20	IC SN74LS20N, TTL
IC8T	8-759-900-32	IC SN74LS32N, TTL
IC1D	8-759-900-51	IC SN74LS51N, TTL
IC10P	8-759-900-58	IC HA1-4905-5
IC7G, 10S	8-759-900-59	IC HI1-0201
IC2F, 2P, 3B, 3G, 4D, 4F, 5L, 6B, 7K, 9M, 10X, 10Y, 10Z	8-759-900-74	IC SN74LS74AN, TTL
IC3H	8-759-900-86	IC SN74LS86N, TTL
IC8A, 9A	8-759-901-13	IC SN74LS113N, TTL
IC6K 8K	8-759-901-14	IC SN74LS114AN, TTL
IC1N	8-759-901-23	IC SN74LS123N, TTL
IC1V, 1W, 2V, 2W, 3L, 3N, 3P, 3Q, 3S, 3T, 3V, 3W, 4V, 4W, 5V, 5W, 6V, 6W	8-759-901-28	IC MSM5128-12RS, NMOS
IC3E, 5B	8-759-901-51	IC SN74LS151N, TTL
IC1P	8-759-901-57	IC SN74LS157N, TTL
IC6M, 6N, 6P, 7M, 7N, 7P	8-759-901-58	IC SN74LS158N, TTL
IC5C, 7L, 8L, 8M, 8N, 8P, 8Q	8-759-901-61	IC SN74LS161AN, TTL

Ref. No. or Q'ty	Part No.	Description
(CK-11 BOARD, BVT-800PS)		
IC1E, 1G, 1K, 2G, 4A, 6L, 7Q, 7R, 8R	**8-759-901-63**	**IC SN74LS163AN, TTL**
IC1M, 1Y, 2Y, 3D, 3Y, 4Y, 5Y, 6Y, 7Y, 8C, 8Y, 9W	**8-759-901-64**	**IC SN74LS164N, TTL**
IC1U, 2U, 3U, 4U, 5U, 6U, 7U, 8U	**8-759-901-66**	**IC SN74LS166AN, TTL**
IC4H	**8-759-901-74**	**IC SN74LS174N, TTL**
IC1L, 2E, 2L, 3C, 4C, 7H, 9Z	**8-759-901-75**	**IC SN74LS175N, TTL**
IC1F, 4B, 5A, 6C, 7D, 9R	**8-759-902-21**	**IC SN74LS221N, TTL**
IC6A	**8-759-902-74**	**IC SN74LS423N, TTL**
IC2K	**8-759-903-67**	**IC SN74LS367AN, TTL**
IC1X, 2R, 2S, 2T, 2X, 3X, 4X, 5R, 5S, 5Q, 5X, 6X, 7S, 7T	**8-759-903-74**	**IC SN74LS374N, TTL**
IC1R, 1S, 1T, 5T	**8-759-903-77**	**IC SN74LS377N, TTL**
IC5D, 9X, 9Y	**8-759-903-93**	**IC SN74LS393N, TTL**
IC5G	**8-759-903-97**	**IC SN74LS684N, TTL**
IC6Q, 6R, 6S, 6T	**8-759-904-96**	**IC MBM2149L55**
IC9U	**8-759-906-01**	**IC TL601CP**
IC5N, 5P	**8-759-906-29**	**IC MB8147E**
IC5F, 5H, 6F, 6G	**8-759-906-69**	**IC SN74LS669N, TTL**
IC7E	**8-759-910-51**	**IC SN74S51N, TTL**
IC7A, 7B, 7C	**8-759-941-63**	**IC SN74163N, TTL**
IC1C	**8-759-942-65**	**IC SN74265N, TTL**
IC10D	**8-759-957-09**	**IC FT5709M**
IC9J	**8-759-974-06**	**IC SN7406N, TTL**
IC8G, 9E, 10U	**8-759-990-82**	**IC TL082CP**
IC10R, 10H	**8-759-990-84**	**IC TL084CN**

Ref. No. or Q'ty	Part No.	Description
MB-35 BOARD (BVT-800PS)		
1 PC	A-6265-050-A	COMPLETE PCB, MB-35
(This assembly includes the following parts.)		
C1, 2, 3, 4	**1-123-334-00**	**CAP, ELECT 220 25V**
R1, 2	**1-213-131-00**	**RES, METAL 100 5% 1W**
CN5M	1-508-708-00	RECEP, 4P, MALE
CN4M	1-508-709-00	RECEP, 5P, MALE
CN1, 2, 3	**1-508-892-00**	**CONNECTOR, PCB, 100P**
CN8M, 35M, 38M, 39M	1-508-900-00	RECEP, 2P, MALE
CN10M	1-508-903-00	RECEP, 5P, MALE
CN9M	1-508-906-00	RECEP, 10P, MALE
CN11M	1-508-935-00	RECEP, 5P, MALE
CN12M	1-508-936-00	RECEP, 6P, MALE
CN6M	1-508-997-00	RECEP, 12P, MALE
CN7M	1-560-190-00	RECEP, 20P, MALE
2 PCS	**7-621-259-52**	**SCREW, +P 2.6X8**
2 PCS	**7-622-207-05**	**NUT, 2.6**
2 PCS	**7-623-207-22**	**WASHER, SPRING, 2.6**
2 PCS	**7-688-002-11**	**WASHER, 2.6**

CN-46A BOARD (BVT-800PS)		
1 PC	1-605-785-00	PC BOARD, CN-46, WITHOUT COMPONENT
CN17M	1-508-903-00	RECEP, 5P, MALE
CN18M	1-508-906-00	RECEP, 10P, MALE
CN14M	1-508-933-00	RECEP, 2P, MALE
CN15M	1-508-936-00	RECEP, 6P, MALE

IV-4A BOARD (BVT-800PS)

Ref. No. or Q'ty	Part No.	Description
1 PC	A-6257-112-A	COMPLETE PCB, IV-4A
(This assembly includes the following parts.)		
C31	1-107-085-00	CAP, MICA 100PF 5% 50V
C12, 40, 42	1-107-210-00	CAP, MICA 22PF 5% 500V
C34, 39	1-108-555-00	CAP, MYLAR 0.001 5% 50V
C22	1-108-567-00	CAP, MYLAR 0.0033 5% 50V
C35	1-109-542-00	CAP, MICA 220PF 5% 100V
C20	1-109-545-00	CAP, MICA 270PF 5% 100V
C19	1-109-748-00	CAP, MICA 21PF +/−0.5PF 100V
C1, 3, 5, 7, 11, 13, 16, 18, 26, 28, 33	1-123-342-00	CAP, ELECT 22 35V
C41	1-131-347-00	CAP, TANT 1 10% 35V
C38	1-131-359-00	CAP, TANT 10 10% 25V
C44	1-161-039-00	CAP, CERAMIC 0.001 10% 50V
C2, 4, 6, 8, 10, 14, 15, 17, 21, 23, 24, 25, 27, 29, 30, 32, 36, 37, 43, 45	1-161-055-00	CAP, CERAMIC 0.022 10% 50V
C9	1-161-898-31	CAP, CERAMIC 0.47 50V
R32	1-214-093-00	RES, METAL 24 1% 1/4W
R10, 37, 62, 65, 66, 68, 73, 74	1-214-100-00	RES, METAL 47 1% 1/4W
R3	1-214-101-00	RES, METAL 51 1% 1/4W
R1, 19, 57, 58, 59, 60, 61, 67	1-214-105-00	RES, METAL 75 1% 1/4W
R7, 13, 17, 33, 35, 36, 88	1-214-108-00	RES, METAL 100 1% 1/4W
R44, 45	1-214-112-00	RES, METAL 150 1% 1/4W
R27, 38, 39, 46, 47	1-214-115-00	RES, METAL 200 1% 1/4W
R16, 18, 41, 53	1-214-116-00	RES, METAL 220 1% 1/4W
R15	1-214-117-00	RES, METAL 240 1% 1/4W
R12, 14, 42	1-214-119-00	RES, METAL 300 1% 1/4W
R54, 55, 56	1-214-121-00	RES, METAL 360 1% 1/4W
R63, 99	1-214-124-00	RES, METAL 470 1% 1/4W
R84	1-214-125-00	RES, METAL 510 1% 1/4W
R8, 9	1-214-128-00	RES, METAL 680 1% 1/4W
R96	1-214-129-00	RES, METAL 750 1% 1/4W
R40	1-214-131-00	RES, METAL 910 1% 1/4W

Ref. No. or Q'ty	Part No.	Description
(IV-4A BOARD, BVT-800PS)		
R11, 50, 78, 87, 90, 97	1-214-132-00	RES, METAL 1K 1% 1/4W
R43, 52	1-214-134-00	RES, METAL 1.2K 1% 1/4W
R64	1-214-136-00	RES, METAL 1.5K 1% 1/4W
R48	1-214-137-00	RES, METAL 1.6K 1% 1/4W
R77, 103	1-214-138-00	RES, METAL 1.8K 1% 1/4W
R31, 89	1-214-139-00	RES, METAL 2.0K 1% 1/4W
R26, 72, 76	1-214-142-00	RES, METAL 2.7K 1% 1/4W
R70	1-214-144-00	RES, METAL 3.3K 1% 1/4W
R71	1-214-146-00	RES, METAL 3.9K 1% 1/4W
R2, 4, 20, 22, 28, 34, 69, 79, 83, 85, 86, 95, 102	1-214-148-00	RES, METAL 4.7K 1% 1/4W
R30	1-214-149-00	RES, METAL 5.1K 1% 1/4W
R82	1-214-153-00	RES, METAL 7.5K 1% 1/4W
R5, 29, 51	1-214-155-00	RES, METAL 9.1K 1% 1/4W
R75, 80	1-214-156-00	RES, METAL 10K 1% 1/4W
R100, 104	1-214-158-00	RES, METAL 12K 1% 1/4W
R25, 81	1-214-160-00	RES, METAL 15K 1% 1/4W
R98	1-214-172-00	RES, METAL 47K 1% 1/4W
R94	1-214-173-00	RES, METAL 51K 1% 1/4W
R21, 23, 24, 92, 93	1-214-180-00	RES, METAL 100K 1% 1/4W
RV2	1-224-978-00	RES, VAR, METAL 50
RV1	1-228-288-00	RES, VAR, METAL 100
RV4, 5	1-228-290-00	RES, VAR, METAL 500
RV3	1-228-291-00	RES, VAR, METAL 1K
RV6	1-228-296-00	RES, VAR, METAL 50K
R6	1-247-049-00	RES, CARBON 470K 5% 1/6W
R91	1-247-887-31	RES, CARBON 220K 5% 1/6W
L2	1-407-161-00	INDUCTOR, MICRO 22 5%
L1	1-407-187-00	INDUCTOR, MICRO 5.6 5%
L501	1-408-874-00	INDUCTOR 81
CN36M	1-508-900-00	RECEP, 2P, MALE
CN19M, 22M	1-508-936-00	RECEP, 6P, MALE
CN21M	1-508-951-00	RECEP, 10P, MALE
CN20M	1-508-997-00	RECEP, 12P, MALE
FB1, 2, 3, 4, 5, 6, 7, 8, 9	1-535-178-00	FERRITE BEAD
TP1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 E1, 2, 3, 4	3-657-235-00	TERMINAL, TP

Ref. No. or Q'ty	Part No.	Description
(IV-4A BOARD, BVT-800PS)		
2 PCS	4-835-627-00	FASTENER
1 PC	**7-686-527-01**	**SCREW, PSW 3X6**
D16, 17	**8-719-104-10**	**DIODE 1SS99**
D6, 11	**8-719-115-07**	**DIODE RD15E**
D5, 10	**8-719-151-07**	**DIODE RD5.1E-B**
D20	**8-719-191-07**	**DIODE RD9.1E**
D12, 13, 18, 19, 21	**8-719-815-55**	**DIODE 1S1555**
D1, 2, 3, 4, 7, 8, 9, 22	**8-719-815-80**	**DIODE 1S1587**
Q4, 5	**8-729-023-69**	**TRANSISTOR 2N2369A**
Q13, 19	**8-729-117-54**	**TRANSISTOR 2SA1175**
Q11, 12	**8-729-211-99**	**TRANSISTOR 2SC1199**
Q2, 9	**8-729-658-32**	**TRANSISTOR 2SC1583**
Q14, 15, 16, 17, 18	**8-729-672-43**	**TRANSISTOR 2SC2724**
Q3, 8	**8-729-699-51**	**TRANSISTOR 2SA995**
IC3	**8-759-000-05**	**IC MC1496G; MOTOROLA**
IC1	**8-759-132-40**	**IC UPC324C**
IC7	**8-759-145-57**	**IC UPC4557C**
IC5	**8-759-901-23**	**IC SN74LS123N, TTL**
IC4	**8-759-907-10**	**IC TL710CP**
IC2	**8-759-974-38**	**IC SN7438N, TTL**
Q1	**8-761-510-10**	**TRANSISTOR 2SK58-1X**
Q6, 7	**8-761-622-00**	**TRANSISTOR 2SC1636**
Q10	**8-765-300-00**	**TRANSISTOR 2SC2009**

Ref. No. or Q'ty	Part No.	Description
DP-24A BOARD (BVT-800PS)		
1 PC	A-6265-049-A	COMPLETE PCB, DP-24A
(This assembly includes the following parts.)		
R5, 6	**1-214-113-00**	**RES, METAL 160 1% 1/4W**
R1, 2, 3, 4	**1-214-120-00**	**RES, METAL 330 1% 1/4W**
CN13M	1-508-949-00	RECEP, 12P, MALE
D8, 9	**8-719-901-34**	**LED, LD003, RED/GREEN/RED**
D1, 2, 3, 4, 5, 7	**8-719-901-48**	**LED, LT-9010N, GREEN**
D6	**8-719-901-49**	**LED, LT-9010H, YELLOW**
IC2	**8-759-974-06**	**IC SN7406N, TTL**
IC1	**8-759-974-07**	**IC SN7407N, TTL**
IC3	**8-759-974-38**	**IC SN7438N, TTL**

Ref. No. or Q'ty	Part No.	Description
PW-91A BOARD (BVT-800PS)		
1 PC	A-6263-042-A	COMPLETE PCB, PW-91A
(This assembly includes the following parts.)		
Q2, 3	**X-3673-224-1**	**TRANSISTOR 2SC2625, 2 PCS**
		This part is the kit of two transistors. Replace Q2 & Q3 at the same time.
C71, 91, 111, 131	**1-107-082-00**	**CAP, MICA 75PF 5% 50V**
C17	**1-108-567-00**	**CAP, MYLAR 0.0033 5% 50V**
C51, 52, 53, 54	**1-108-579-00**	**CAP, MYLAR 0.01 5% 50V**
C72, 132	**1-123-307-00**	**CAP, ELECT 100 10V**
C55, 58, 59, 60, 61, 62, 63	**1-123-824-00**	**CAP, ELECT 220 25V**

Ref. No. or Q'ty	Part No.	Description
(PW-91A BOARD, BVT-800PS)		
C9	1-123-981-00	CAP, ELECT 4.7 450V
C18	1-123-982-00	CAP, ELECT 3.3 63V
C56, 57	1-123-983-00	CAP, ELECT 470 16V
C10, 11	1-123-984-00	CAP, ELECT 4.7 250V
C7, 8	1-125-282-00	CAP, ELECT 470 200V
⚠ C3, 4, 5, 6	1-130-854-00	CAP, FILM 0.0022 250V
C14, 16	1-131-356-00	CAP, TANT 3.3 10% 25V
⚠ C2	1-136-210-00	CAP, FILM 0.01 250V
⚠ C1	1-136-212-00	CAP, FILM 0.1 250V
C12	1-161-740-00	CAP, CERAMIC 470PF 10% 400V
⚠ R1	1-205-739-00	RES, WIREWOUND 8.2 10% 5W
R11, 13	1-212-497-00	RES, METAL 33 1% 1/2W
R21, 22	1-212-498-00	RES, METAL 36 1% 1/2W
R15, 16, 17, 18	1-212-703-00	RES, METAL 110K 1% 1/2W
R77	1-214-084-00	RES, METAL 10 1% 1/4W
R14	1-214-100-00	RES, METAL 47 1% 1/4W
R82, 83, 98, 138	1-214-101-00	RES, METAL 51 1% 1/4W
R96, 117, 119, 135	1-214-108-00	RES, METAL 100 1% 1/4W
R6	1-214-109-00	RES, METAL 110 1% 1/4W
R116	1-214-113-00	RES, METAL 160 1% 1/4W
R75, 93, 113, 133	1-214-115-00	RES, METAL 200 1% 1/4W
R115	1-214-116-00	RES, METAL 220 1% 1/4W
R76	1-214-122-00	RES, METAL 390 1% 1/4W
R154	1-214-125-00	RES, METAL 510 1% 1/4W
R71, 123	1-214-132-00	RES, METAL 1K 1% 1/4W
R78	1-214-135-00	RES, METAL 1.3K 1% 1/4W
R94, 134	1-214-139-00	RES, METAL 2.0K 1% 1/4W
R95, 100, 101, 137, 140, 141	1-214-140-00	RES, METAL 2.2K 1% 1/4W

Ref. No. or Q'ty	Part No.	Description
(PW-91A BOARD, BVT-800PS)		
R86, 87, 104, 124, 145	1-214-141-00	RES, METAL 2.4K 1% 1/4W
R88, 155	1-214-143-00	RES, METAL 3.0K 1% 1/4W
R84, 99, 120, 143	1-214-144-00	RES, METAL 3.3K 1% 1/4W
R106, 144	1-214-149-00	RES, METAL 5.1K 1% 1/4W
R103, 139	1-214-150-00	RES, METAL 5.6K 1% 1/4W
R121	1-214-152-00	RES, METAL 6.8K 1% 1/4W
R79	1-214-158-00	RES, METAL 12K 1% 1/4W
R89, 105, 118, 147, 151	1-214-161-00	RES, METAL 16K 1% 1/4W
R80	1-214-164-00	RES, METAL 22K 1% 1/4W
R7	1-215-242-00	RES, METAL 150 5% 3W
R55	1-217-300-00	RES, WIREWOUND 15 5W 10%
R9, 72, 73, 91, 111, 131	1-217-621-00	RES, METAL 0.1 10% 2W
⚠ R2	1-217-623-00	RES, FUSIBLE 3K 5% 2W
RV71, 91, 111, 131	1-228-290-00	RES, VAR, METAL 500
RV72, 92, 132, 151	1-228-292-00	RES, VAR, METAL 2K
R19, 20	1-244-928-00	RES, CARBON 200K 5% 1/2W
R8, 12	1-246-432-00	RES, CARBON 20 5% 1/4W
R74, 92, 112, 132	1-246-469-00	RES, CARBON 680 5% 1/4W
R97, 136	1-246-811-00	RES, CARBON 220K 5% 1/8W
R81, 102, 122, 142	1-247-046-00	RES, CARBON 270K 5% 1/8W
R51, 52, 53, 54	1-247-083-00	RES, CARBON 10 5% 1/4W
R5	1-247-765-00	RES, CARBON 33K 5% 1/2W
L3	1-408-654-00	INDUCTOR, MICRO 1mH 5%
L51	1-413-089-00	COIL, SN
L52, 53	1-413-090-00	COIL, SN
L54	1-413-091-00	COIL, SN

Ref. No. or Q'ty	Part No.	Description
(PW-91A BOARD, BVT-800PS)		
⚠ L1, 2	1-421-329-00	COIL, CHOKE
L55, 57, 58, 59	1-421-329-00	COIL, CHOKE
⚠ T1	1-421-430-00	TRANSFORMER, LOW FREQ
L56	1-421-459-00	COIL, CHOKE
T2, 3	1-437-109-00	TRANSFORMER, DRIVE
⚠ T4	1-447-229-00	TRANSFORMER, CONVERTER
CN51M	1-508-900-00	RECEP, 2P, MALE
⚠ CN3M	1-508-904-00	RECEP, 6P, MALE
⚠ RY1	1-515-451-21	RELAY, 12V 500 OHMS
⚠ SW3	1-554-058-21	SWITCH, THERMAL REED 70°C
⚠ CN1M	1-560-176-00	RECEP, 2P, MALE
⚠ CN2M	1-560-723-00	RECEP, 3P, MALE
ZT1	1-806-356-00	VARISTOR ENB461-10A
CN5F	1-509-585-00	PLUG, HOUSING, 4P
	1-535-100-00	CONTACT, FEMALE
CN4F	1-509-705-00	PLUG, HOUSING, 5P
	1-535-100-00	CONTACT, FEMALE
2 PCS	1-535-324-00	PLUG, FASTEN, FEMALE
5 PCS	2-832-007-00	BUSHING, INSULATING
3 PCS	3-650-188-00	COLLAR, 6mm DIA.
TP1, 2, 3,		
7 PCS	7-621-981-25	SCREW, PSW 2.6X8
3 PCS	7-621-981-35	SCREW, PSW 2.6X10
7 PCS	7-686-529-01	SCREW, PSW 3X10

Ref. No. or Q'ty	Part No.	Description
(PW-91A BOARD, BVT-800PS)		
1 PC	7-686-548-01	SCREW, PSW 4X8
D71, 134	8-719-102-52	DIODE 1SZ52
D7	8-719-115-07	DIODE RD15E
D72, 93, 112, 131	8-719-139-07	DIODE RD3.9E-B
D6, 16	8-719-200-02	DIODE 10E2
D5, 73, 74, 91, 92, 111, 113, 132, 133	8-719-815-55	DIODE 1S1555
D8, 9	8-719-901-17	DIODE V11L
D51	8-719-901-18	DIODE ESAD83
D1, 2, 3, 4	8-719-902-17	DIODE U15G
D52, 54	8-719-912-50	DIODE ESAC25-02N
D53	8-719-912-52	DIODE ESAC25-02C
D10, 11, 13, 14	8-719-923-48	DIODE 1S2348H
D17, 18	8-719-924-06	DIODE ERC24-06S
D12, 15	8-719-930-12	DIODE EQB01-12Z
Q112, 132	8-729-113-34	TRANSISTOR 2SB733
Q72, 92	8-729-177-32	TRANSISTOR 2SD773
Q1	8-729-204-88	TRANSISTOR 2SC3310
Q71, 91	8-729-900-07	TRANSISTOR 2SB757
Q111, 131	8-729-984-70	TRANSISTOR 2SD847
IC71, 111	8-759-132-40	IC UPC324C
Q73, 133	8-769-193-09	TRANSISTOR 2SK43-3

CT-29 BOARD (BVT-800PS)

Ref. No. or Q'ty	Part No.	Description
1 PC	A-6263-037-A	COMPLETE PCB, CT-29
(This assembly includes the following parts.)		
C209, 211	**1-108-559-00**	**CAP, MYLAR 0.0015 5% 50V**
C204	**1-108-570-00**	**CAP, MYLAR 0.0043 5% 50V**
C207, 208	**1-108-571-00**	**CAP, MYLAR 0.0047 5% 50V**
C206	**1-108-595-00**	**CAP, MYLAR 0.047 5% 50V**
C203	**1-123-382-00**	**CAP, ELECT 3.3 20% 25V**
C202	**1-123-356-00**	**CAP, ELECT 10 20% 25V**
C205	**1-123-330-00**	**CAP, ELECT 22 20% 25V**
C212	**1-161-055-00**	**CAP, CERAMIC 0.022 10% 50V**
C201	**1-161-888-00**	**CAP, CERAMIC 0.01 50V**
R212	**1-247-083-00**	**RES, CARBON 10 1% 1/4W**
R219	**1-247-122-00**	**RES, CARBON 430 1% 1/4W**
R200, 220, 222	**1-247-131-00**	**RES, CARBON 1K 1% 1/4W**
R201, 208, 211	**1-247-141-00**	**RES, CARBON 2.7K 1% 1/4W**
R207	**1-247-147-00**	**RES, CARBON 4.7K 1% 1/4W**
R221	**1-247-152-00**	**RES, CARBON 7.5K 1% 1/4W**
R206	**1-247-154-00**	**RES, CARBON 9.1K 1% 1/4W**
R205	**1-247-157-00**	**RES, CARBON 12K 1% 1/4W**
R213, 216	**1-247-159-00**	**RES, CARBON 15K 1% 1/4W**
R203, 204, 214, 215, 217, 218	**1-247-164-00**	**RES, CARBON 24K 1% 1/4W**
R202	**1-247-165-00**	**RES, CARBON 27K 1% 1/4W**
RV201	**1-226-022-00**	**RES, VAR, METAL 2K**
RV202	**1-226-023-00**	**RES, VAR, METAL 5K**
R209, 210	**1-247-052-00**	**RES, CARBON 820K 5% 1/8W**
CN201M	1-508-904-00	RECEP, 6P, MALE
D201	**8-719-100-27**	**DIODE RD4.7E-B2**
Q201	**8-729-606-32**	**TRANSISTOR 2SC2603**
IC202	**8-759-145-57**	**IC UPC4557C**
IC201	**8-759-904-94**	**IC TL494CN**

FRAME (BVT-800PS)

Ref. No. or Q'ty	Part No.	Description
R1	**1-214-105-00**	**RES, METAL 75 1% 1/4W**
R2	**1-247-825-00**	**RES, CARBON 560 5% 1/6W**
CN41M	**1-508-945-00**	**RECEP, 7P, MALE**
CN23M	**1-509-470-00**	**RECEP, 18P, MALE**
CN8F, 14F, 16F, 35F, 36F, 38F, 39F	1-509-983-00	PLUG, HOUSING, 2P
	1-509-982-00	CONTACT, FEMALE
CN10F, 11F, 17F	1-509-986-00	PLUG, HOUSING, 5P
	1-509-982-00	CONTACT, FEMALE
CN12F, 15F, 19F, 22F	1-509-987-00	PLUG, HOUSING, 6P
	1-509-982-00	CONTACT, FEMALE
CN9F, 18F, 21F	1-509-989-00	PLUG, HOUSING, 10P
	1-509-982-00	CONTACT, FEMALE
⚠ CN61, 62	1-563-112-11	CONNECTOR, DIVERGE
⚠ **SW1**	**1-570-117-31**	**SWITCH, SEESAW**
⚠ **CB1**	**1-532-534-31**	**BREAKER, CIRCUIT, AC250V 1.6A**
1 PC	1-535-324-00	TERMINAL, FASTEN
M1	**1-541-170-31**	**MOTOR, FAN, DC**
SW3, 4	**1-552-822-00**	**SWITCH, SLIDE**
⚠ **SW2**	**1-554-011-00**	**SWITCH, VOLTAGE SELECT**
⚠ **1 PC**	**1-556-559-31**	**CORD, POWER, 3P**
CN40M	**1-560-495-00**	**RECEP, D-SUB 15P, MALE**
CN6F, 13F, 20F	1-561-056-00	PLUG, HOUSING, 12P
	1-509-982-00	CONTACT, FEMALE
⚠ CN1F	1-561-069-00	PLUG, HOUSING, 2P
	1-535-206-00	CONTACT, FEMALE
CN7F	1-561-485-00	PLUG, HOUSING, 20P
	1-560-037-00	CONTACT, FEMALE

FRAME, ACCESSORIES, PAKING, FIXTURE

Ref. No. or Q'ty	Part No.	Description
(FRAME, BVT-800PS)		
CN25F, 26F, 27F, 28F, 29F, 30F, 32F, 33F, 34F	**1-561-781-21**	**RECEP, BNC, FEMALE**
⚠ CN2F	1-561-828-00	PLUG, HOUSING, 3P
	1-535-206-00	CONTACT, FEMALE

ACCESSORIES SUPPLIED (BVT-800PS)

1 PC	**A-6252-050-A**	**EB-9A ASSY**
R2, 6	**1-246-457-00**	**RES, CARBON 220 5% 1/4W**
R1, 5	**1-246-469-00**	**RES, CARBON 680 5% 1/4W**
1 PC	**1-508-892-00**	**CONNECTOR, PCB, 100P**
2 PCS	3-657-235-00	TERMINAL, TP
10 PCS	**7-621-981-15**	**SCREW, PSW 2.6X6**
4 PCS	**7-621-981-25**	**SCREW, PSW 2.6X8**
8 PCS	**7-686-527-01**	**SCREW, PSW 3X6**
D1, 2, 3, 5	**8-719-812-41**	**LED, TLR124, RED**
2 PCS	X-3673-210-2	ANGLE ASSY, RACK
1 PC	**1-556-155-00**	**CABLE ASSY, 18P, 3m**
	1-508-495-00	**PLUG, 18P, MALE**
	1-508-496-00	**PLUG, 18P, FEMALE**
1 PC	3-654-748-00	SPACER
4 PCS	**7-682-262-14**	**SCREW, +K 4X10**
4 PCS	**7-686-637-09**	**SCREW, B 4X12**

PACKING MATERIAL (BVT-800PS)

Ref. No. or Q'ty	Part No.	Description
1 PC	**3-701-616-00**	**BAG, POLYETHYLENE (FOR SCREWS)**
2 PCS	**3-701-619-00**	**BAG, POLYETHYLENE (FOR RACK ANGLE ASSY)**
2 PCS	**3-701-630-00**	**BAG, POLYETHYLENE (FOR MANUAL AND CABLE)**
1 PC	**3-701-634-00**	**BAG, POLYETHYLENE (FOR EB-9A BOARD)**
1 PC	**4-854-939-00**	**BAG, POLYETHYLENE (FOR BVT-800PS)**

OPTIONAL FIXTURE (BVT-800PS)

7-700-733-01	**ALIGNMENT SCREWDRIVER, SLOTTED HEAD**
7-700-736-06	**HEXAGONAL WRENCH, L-SHAPED, 0.89mm**
7-721-050-63	**SCREWDRIVER, TOTSU, 3mm DIA.**
7-721-050-64	**SCREWDRIVER, TOTSU, 4mm DIA.**
J-6041-770-A	**IC TEST CLIP, TC-16**
J-6041-780-A	**IC TEST CLIP, TC-20**

Manufacturer;
AP Products Incorporated
BOX 697 72 Corwin Drive
Painesville, Ohio 44077, USA
TEL: 216-354-2101

SECTION E
CHANGED PARTS

UP TO #10199 (BVT-800PS, FOR PAL)

#10201 & UP (BVT-800PS, FOR PAL)

SG-67 BOARD

R569	1-214-180-00	RES, METAL 100K 1% 1/4W	1-214-175-00	RES, METAL 62K 1% 1/4W

UP TO #10199 (BVT-800PS, FOR PAL)

#10201 & UP (BVT-800PS, FOR PAL)
#70001 & UP (BVT-800PS, FOR SECAM)

PR-40 BOARD

C513	1-161-055-00	CAP, CERAMIC 0.022 10% 50V	DELETED	
R604	1-214-109-00	RES, METAL 100 1% 1/4W	1-214-105-00	RES, METAL 75 1% 1/4W
R539	1-214-113-00	RES, METAL 160 1% 1/4W	1-214-118-00	RES, METAL 270 1% 1/4W
R673	1-214-121-00	RES, METAL 360 1% 1/4W	DELETED	
R623	NOT IN USE		1-214-121-00	RES, METAL 360 1% 1/4W
R121	1-214-139-00	RES, METAL 2.0K 1% 1/4W	1-214-136-00	RES, METAL 1.5K 1% 1/4W
R674	1-214-163-00	RES, METAL 20K 1% 1/4W	DELETED	
R624	NOT IN USE		1-214-165-00	RES, METAL 24K 1% 1/4W
R289	1-214-165-00	RES, METAL 24K 1% 1/4W	DELETED	
RV110	NOT IN USE		1-228-291-00	RES, VAR, METAL 1K
TP507	NOT IN USE		3-657-235-00	TERMINAL, TP

UP TO #10299 (BVT-800PS, FOR PAL)

#10301 & UP (BVT-800PS, FOR PAL)

SG-67 BOARD

R569	1-214-175-00	RES, METAL 62K 1% 1/4W	DELETED	
RV505	1-228-294-00	RES, VAR, METAL 10K	DELETED	

UP TO #10399 (BVT-800PS, FOR PAL)
UP TO #70099 (BVT-800PS, FOR SECAM)

#10401 & UP (BVT-800PS, FOR PAL)
#70101 & UP (BVT-800PS, FOR SECAM)

PR-40 BOARD

R620	1-214-140-00	RES, METAL 2.2K 1% 1/4W	DELETED	
R661	1-214-146-00	RES, METAL 3.9K 1% 1/4W	1-214-144-00	RES, METAL 3.3K 1% 1/4W
R584	1-214-147-00	RES, METAL 4.3K 1% 1/4W	DELETED	
R621	1-214-160-00	RES, METAL 15K 1% 1/4W	DELETED	
R622	1-214-164-00	RES, METAL 22K 1% 1/4W	DELETED	
R635	1-214-166-00	RES, METAL 27K 1% 1/4W	1-214-165-00	RES, METAL 24K 1% 1/4W
RV507	1-228-295-00	RES, VAR, METAL 20K	DELETED	
Q514	8-761-622-00	TRANSISTOR 2SC1636	DELETED	

CHANGED PARTS

UP TO #10499 (BVT-800PS, FOR PAL)

SG-67 BOARD

R232	1-214-156-00	RES, METAL 10K 1% 1/4W
RV210	NOT IN USE	
TP211	NOT IN USE	

#10501 & UP (BVT-800PS, FOR PAL)

1-214-155-00	RES, METAL 9.1K 1% 1/4W
1-228-292-00	RES, VAR, METAL 20K
3-657-235-00	TERMINAL, TP

UP TO #10499 (BVT-800PS, FOR PAL)

CK-11 BOARD

IC1P	NOT IN USE	

#10501 & UP (BVT-800PS, FOR PAL)
#70001 & UP (BVT-800PS, FOR SECAM)

8-759-901-57	IC SN74LS157N, TTL

UP TO #10499 (BVT-800PS, FOR PAL)
UP TO #70199 (BVT-800PS, FOR SECAM)

PR-40 BOARD

R539	1-214-118-00	RES, METAL 270 1% 1/4W

CK-11 BOARD

R50	1-214-120-00	RES, METAL 330 1% 1/4W

CT-29 BOARD

R222	1-246-473-00	RES, CARBON 1K 1% 1/4W

#10501 & UP (BVT-800PS, FOR PAL)
#70201 & UP (BVT-800PS, FOR SECAM)

1-214-119-00	RES, METAL 300 1% 1/4W
1-214-123-00	RES, METAL 430 1% 1/4W
1-214-132-00	RES, METAL 1K 1% 1/4W

UP TO #10599 (BVT-800PS, FOR PAL)
UP TO #70199 (BVT-800PS, FOR SECAM)

PR-40 BOARD

C110, 125	1-123-343-00	CAP, ELECT 33 35V

#10601 & UP (BVT-800PS, FOR PAL)
#70201 & UP (BVT-800PS, FOR SECAM)

1-131-374-00	CAP, TANT 33 10% 16V

UP TO #10799 (BVT-800PS, FOR PAL) **UP TO #70199** (BVT-800PS, FOR SECAM)			**#10801 & UP** (BVT-800PS, FOR PAL) **#70201 & UP** (BVT-800PS, FOR SECAM)	
PW-91A BOARD				
R8, 12	1-244-632-00	RES, CARBON 20 5% 1/4W	1-246-432-00	RES, CARBON 20 5% 1/4W
R74, 92, 112, 132	1-244-669-00	RES, CARBON 680 5% 1/4W	1-246-469-00	RES, CARBON 680 5% 1/4W

UP TO #10899 (BVT-800PS, FOR PAL)			**#10901 & UP** (BVT-800PS, FOR PAL)	
SG-67 BOARD				
R40	1-214-168-00	RES, METAL 33K 1% 1/4W	1-214-163-00	RES, METAL 2K 1% 1/4W

UP TO #10899 (BVT-800PS, FOR PAL) **UP TO #70199** (BVT-800PS, FOR SECAM)			**#10901 & UP** (BVT-800PS, FOR PAL) **#70201 & UP** (BVT-800PS, FOR SECAM)	
POWER SUPPLY ASSY				
3-2	3-648-057-00	NUT, U	3-680-316-00	NUT, NYLON, 4
REAR PANEL ASSY				
3-1	3-648-057-00	NUT, U	3-680-316-00	NUT, NYLON, 4

UP TO #11100 (BVT-800PS, FOR PAL) **UP TO #70199** (BVT-800PS, FOR SECAM)			**#11101 & UP** (BVT-800PS, FOR PAL) **#70201 & UP** (BVT-800PS, FOR SECAM)	
PW-91 BOARD				
C2	1-130-455-00	CAP, FILM 0.01 20% 250V	1-136-210-00	CAP, FILM 0.01 20% 250V
C1	1-130-917-00	CAP, FILM 0.1 20% 250V	1-136-212-00	CAP, FILM 0.1 20% 250V
R55	1-212-507-00	RES, METAL 82 1/2W 1%	1-217-300-00	RES, WIREWOUND 15 5W 10%
R56, 57, 58, 59	1-212-507-00	RES, METAL 82 1/2W 1%	DELETED	
R51, 52, 53, 54	1-214-084-00	RES, METAL 10 1/4W 1%	1-247-083-00	RES, CARBON 10 1/4W 5%
R1	1-217-297-00	RES, WIREWOUND 8.2 5W 10%	1-205-739-00	RES, WIREWOUND 8.2 5W 10%
RY1	1-515-451-00	RELAY, 12V 500 OHMS	1-515-451-21	RELAY, 12V 500 OHMS
SW3	1-554-058-00	SWITCH, THERMAL REED 70°C	1-554-058-21	SWITCH, THERMAL REED 70°C
ZT2	1-806-355-00	VARISTOR ENB221-10A	DELETED	
FRAME				
	1-556-559-00	CORD, POWER	1-556-559-31	CORD, POWER

CHANGED PARTS

UP TO #11599 (BVT-800PS, FOR PAL)

SG-67 BOARD

R27	1-214-148-00	RES, METAL 4700 1% 1/4W

#11601 & UP (BVT-800PS, FOR PAL)

	1-214-139-00	RES, METAL 2K 1% 1/4W

UP TO #11699 (BVT-800PS, FOR PAL)
UP TO #70299 (BVT-800PS, FOR SECAM)

#11701 & UP (BVT-800PS, FOR PAL)
#70301 & UP (BVT-800PS, FOR SECAM)

CT-29 BOARD

C203	1-131-356-00	CAP, TANT 3.3 10% 25V	1-123-382-00	CAP, ELECT 3.3 20% 100V
C202	1-131-359-00	CAP, TANT 10 10% 25V	1-123-356-00	CAP, ELECT 10 20% 25V
C205	1-131-367-00	CAP, TANT 22 10% 20V	1-123-330-00	CAP, ELECT 22 20% 25V
R212	1-214-084-00	RES, METAL 10 1/4W 1%	1-247-083-00	RES, CARBON 10 1/4W 5%
R219	1-214-123-00	RES, METAL 430 1/4W 1%	1-247-122-00	RES, CARBON 430 1/4W 5%
R200, 220, 222	1-214-132-00	RES, METAL 1K 1/4W 1%	1-247-131-00	RES, CARBON 1K 1/4W 5%
R201, 208, 211	1-214-142-00	RES, METAL 2.7K 1/4W 1%	1-247-141-00	RES, CARBON 2.7K 1/4W 5%
R207	1-214-148-00	RES, METAL 4.7K 1/4W 1%	1-247-147-00	RES, CARBON 4.7K 1/4W 5%
R221	1-214-153-00	RES, METAL 7.5K 1/4W 1%	1-247-152-00	RES, CARBON 7.5K 1/4W 5%
R206	1-214-155-00	RES, METAL 9.1K 1/4W 1%	1-247-154-00	RES, CARBON 9.1K 1/4W 5%
R205	1-214-158-00	RES, METAL 12K 1/4W 1%	1-247-157-00	RES, CARBON 12K 1/4W 5%
R213, 216	1-214-160-00	RES, METAL 15K 1/4W 1%	1-247-159-00	RES, CARBON 15K 1/4W 5%
R203, 204, 214, 215, 217, 218	1-214-165-00	RES, METAL 24K 1/4W 1%	1-247-164-00	RES, CARBON 24K 1/4W 5%
R202	1-214-166-00	RES, METAL 27K 1/4W 1%	1-247-165-00	RES, CARBON 27K 1/4W 5%

UP TO #11899 (BVT-800PS, FOR PAL)
UP TO #70299 (BVT-800PS, FOR SECAM)

#11901 & UP (BVT-800PS, FOR PAL)
#70301 & UP (BVT-800PS, FOR SECAM)

PR-40 BOARD

IC132	8-759-900-04	IC SN74LS04N, TTL

	8-759-910-04	IC SN74S04N, TTL

UP TO #11999 (BVT-800PS, FOR PAL)
UP TO #70399 (BVT-800PS, FOR SECAM)

#12001 & UP (BVT-800PS, FOR PAL)
#70401 & UP (BVT-800PS, FOR SECAM)

FRAME

R2	NOT IN USE	

	1-247-825-00	RES, CARBON 560 5% 1/6W

UP TO #12199 (BVT-800PS, FOR PAL) **UP TO #70399** (BVT-800PS, FOR SECAM)			**#12201 & UP** (BVT-800PS, FOR PAL) **#70401 & UP** (BVT-800PS, FOR SECAM)	
POWER SUPPLY ASSY				
4-2	4-823-115-00	SPRING, COMPRESSION	3-303-890-01	SPRING, COMPRESSION
REAR PANEL ASSY				
4-2	4-823-115-00	SPRING, COMPRESSION	3-303-890-01	SPRING, COMPRESSION

UP TO #12599 (BVT-800PS, FOR PAL) **UP TO #70399** (BVT-800PS, FOR SECAM)			**#12601 & UP** (BVT-800PS, FOR PAL) **#70401 & UP** (BVT-800PS, FOR SECAM)	
PW-91A BOARD				
R5	1-211-673-00	RES, CARBON 30K 5% 1/2W	1-247-765-00	RES, CARBON 33K 5% 1/2W

UP TO #12799 (BVT-800PS, FOR PAL) **UP TO #70399** (BVT-800PS, FOR SECAM)			**#12801 & UP** (BVT-800PS, FOR PAL) **#70401 & UP** (BVT-800PS, FOR SECAM)	
PW-91A BOARD				
5 PCS	7-686-527-01	SCREW, PSW 3X6	DELETED	
2 PCS	7-686-528-01	SCREW, PSW 3X8	DELETED	
2 PCS	7-686-529-01	SCREW, PSW 3X10	7 PCS	

UP TO #12799 (BVT-800PS, FOR PAL) **UP TO #70599** (BVT-800PS, FOR SECAM)			**#12801 & UP** (BVT-800PS, FOR PAL) **#70601 & UP** (BVT-800PS, FOR SECAM)	
SG-68 BOARD				
R341	1-214-154-00	RES, METAL 8.2K 1% 1/4W	1-214-153-00	RES, METAL 7.5K 1% 1/4W
PR-40 BOARD				
R593	1-214-138-00	RES, METAL 1.8K 1% 1/4W	1-214-136-00	RES, METAL 1.5K 1% 1/4W

UP TO #12999 (BVT-800PS, FOR PAL) **UP TO #70599** (BVT-800PS, FOR SECAM)			**#13001 & UP** (BVT-800PS, FOR PAL) **#70601 & UP** (BVT-800PS, FOR SECAM)	
FRAME				
SW1	1-516-379-00	SWITCH, ROCKER	1-570-117-11	SWITCH, SEESAW
CB1	1-532-534-00	BREAKER, CIRCUIT, AC250V 1.6A	1-532-534-31	BREAKER, CIRCUIT, AC250V 1.6A
PW-91A BOARD				
Q1	8-729-133-53	TRANSISTOR 2SC2335	8-729-204-88	TRANSISTOR 2SC3310

CHANGED PARTS

UP TO #70610 (BVT-800PS, FOR SECAM)

#70611 & UP (BVT-800PS, FOR SECAM)

SG-68 BOARD

R341	1-214-154-00	RES, METAL 8.2K 1% 1/4W	1-214-153-00	RES, METAL 7.5K 1% 1/4W

UP TO #13100 (BVT-800PS, FOR PAL)
UP TO #70610 (BVT-800PS, FOR SECAM)

#13101 & UP (BVT-800PS, FOR PAL)
#70611 & UP (BVT-800PS, FOR SECAM)

SG-67 BOARD

S4	1-554-012-00	SWITCH, DIP, 8-CKT	1-570-281-11	SWITCH, DIP

PR-40 BOARD

S6	1-554-012-00	SWITCH, DP, 8-CKT	1-570-281-11	SWITCH, DIP

UP TO #13600 (BVT-800PS, FOR PAL)
UP TO #70700 (BVT-800PS, FOR SECAM)

#13601 & UP (BVT-800PS, FOR PAL)
#70701 & UP (BVT-800PS, FOR SECAM)

CHASSIS ASSY

2-4	2-252-630-00	PLATE, ORNAMENTAL, HANDLE	2-252-630-02	PLATE, ORNAMENTAL, HANDLE

UP TO #13699 (BVT-800PS, FOR PAL)
UP TO #70799 (BVT-800PS, FOR SECAM)

#13701 & UP (BVT-800PS, FOR PAL)
#70801 & UP (BVT-800PS, FOR SECAM)

PR-40 BOARD

IC529, 530	8-759-907-93	IC μA796HC-B	8-759-000-05	IC MC1496G; MOTOROLA

SG-67 BOARD

IC1L, 1P, 1W, 2H, 2R, 2U, 2Z, 3K, 4K, 4W, 5G, 5K	8-759-907-93	IC μA796HC-B	8-759-000-05	IC MC1496G; MOTOROLA

SG-68 BOARD

IC1E, 1R, 2P, 3E, 5C	8-759-907-93	IC μA796HC-B	8-759-000-05	IC MC1496G; MOTOROLA

IV-4A BOARD

IC3	8-759-907-93	IC μA796HC-B	8-759-000-05	IC MC1496G; MOTOROLA

UP TO #13699 (BVT-800PS, FOR PAL)
UP TO #70899 (BVT-800PS, FOR SECAM)

#13701 & UP (BVT-800PS, FOR PAL)
#70901 & UP (BVT-800PS, FOR SECAM)

IV-4A BOARD

R87	1-214-139-00	RES, METAL 2K 1% 1/4W	1-214-132-00	RES, METAL 1K 1% 1/4W
R89	1-214-132-00	RES, METAL 1K 1% 1/4W	1-214-139-00	RES, METAL 2K 1% 1/4W
R91	1-214-180-00	RES, METAL 100K 1% 1/4W	1-247-887-00	RES, CARBON 220K 5% 1/6W
C38	1-131-347-00	CAP, TANT 1 10% 35V	1-131-359-00	CAP, TANT 10 10% 25V
D14, 15	8-719-815-55	DIODE 1S1555	DELETED	
D16, 17	8-719-815-55	DIODE 1S1555	8-719-104-10	DIODE 1SS99

UP TO #14099 (BVT-800PS, FOR PAL)
UP TO #71099 (BVT-800PS, FOR SECAM)

#14101 & UP (BVT-800PS, FOR PAL)
#71101 & UP (BVT-800PS, FOR SECAM)

PR-40 BOARD

R238	1-214-149-00	RES, METAL 5.1K 1% 1/4W	1-214-132-00	RES, METAL 1K 1% 1/4W
R242	1-214-149-00	RES, METAL 5.1K 1% 1/4W	1-214-151-00	RES, METAL 6.2K 1% 1/4W

UP TO #14299 (BVT-800PS, FOR PAL)
UP TO #71099 (BVT-800PS, FOR SECAM)

#14301 & UP (BVT-800PS, FOR PAL)
#71201 & UP (BVT-800PS, FOR SECAM)

CK-11 BOARD

R36	1-214-159-00	RES, METAL 13K 1% 1/4W	1-214-162-00	RES, METAL 18K 1% 1/4W